

RG 104, 8NS-104-94-077

Box 2

**8NS-104-94-077, Miscellaneous
Correspondence & Memos, 1897-1994**

Memento

1957 - 1958 [Golden 2 of 2]

UNITED STATES MINT
TELETYPE
MESSAGE SENT

DATE OCTOBER 1, 1958

DIRECTOR OF THE MINT
WASHINGTON, D. C.

THE DENVER MINT REQUESTS THAT THE NEW YORK ASSAYER STATE WHAT, IN HIS JUDGEMENT, WOULD BE HIS FINALLY REPORTED FINENESSES OF MELTS FOUR (4), NINE (9), TEN (10) AND SIXTEEN (16), FROM HIS ASSAYS MADE ON DENVER MASSMELT SAMPLES BEARING THOSE NUMBERS.

TATE
CHAIRMAN

TELEPHONED BY _____

TELEPHONED TO _____

TIME TELEPHONED _____

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JW Tate

TATE
CHAIRMAN

TELEPHONED BY ba

TELEPHONED TO Asm PBS

TIME TELEPHONED 2:00

cc: Mr. Tate
Mr. Marshall

Have your representatives informed you that it is a matter of record here, thru a conference with my representatives last week:

1. That none of your representatives have exercised the so-called "assayer's discretion" required by your new statement of policy.
2. That they cannot tell us how or in what manner the so-called "assayer's discretion" is to be exercised.
3. That they do not know how the so-called "assayer's discretion" is exercised at the New York Assay Office.
4. That they do not know whether the New York Assayer would adjust in any way the second set of assays, the scientific determination of which confirmed our original Denver assay.

10/6/58

5. That at the time in the New York conference when Mr. Tate attempted to state the conclusions of his committee ~~wish~~ to the effect that New York used so-called "assayer's discretion", Mr. Merrill interrupted and corrected him. Whereupon Mr. Tate by-passed his objection and restated the same conclusion.
6. That Mr. Merrill was unable to obtain any admission whatsoever from New York representatives that they reported other than the average of the scientific determination.
7. That your representatives admit that the New York representatives were "extremely loathe" to discuss the matter of using discretion even with Mr. Tate.
8. That a serious question exists as to what actually transpired at the New York conference.
9. That your representatives agreed to recommend that the adoption of the new statement of policy be suspended for the time being until guidelines were established for the so-called "assayer's discretion," which would enable the policy to be carried out.
10. That your representatives agreed to find out ^{from} if New York whether the Assayer there would declare in writing whether, in making an official report on the samples he re-assayed during the New York conference, he would stand by his second determinations and report the average or would return to his figures of his first report on the samples.

11. That Mr. Neisser understood our position that the requirement that the Assayer "exercise judgment so as to insure that no refining loss shall subsequently be borne by the Government," would hold the Assayer responsible for the inefficiency of the refinery operator for theft or for any of the other causes advanced for our refinery loss in 1955.

12. That we requested a clarification of this new statement of policy from your office.

13. That the calculations which your representatives here presented to us to show us how so-called "tight assays" could have been the main cause of our refinery loss of 1955, failed to stand up under our analysis.

14. That Mr. Miller continues to affirm that all the reasons he advanced in his explanation for the refinery loss in 1955 remain as definite possibilities.

15. That when the loss was first reported to Denver officials by Mr. Miller, he declared that he felt he had received the gold and thought the loss was due to theft. (This he now denies.)

16. That the record shows a number of unsatisfactory irregularities with respect to the operation of the refinery in the fiscal year 1955, such as:

(1) The carrying away of sweeps placed outside the Mint under Mr. Miller's orders.

- (2) His speeding up of refinery operations with the inexperienced employees whose ability and integrity he questioned.
- (3) His abandonment of the checks he was making on refinery anodes to determine how the material was holding up.
- (4) His unreported finding of pieces of gold in metallic form on a pile of sweeps.
- (5) His discontinuance of Mr. Hull's check upon anodes.
- (6) His discontinuance of the pre-assay of San Francisco deposits, a procedure required by the conditions under which the material was accepted from San Francisco.
- (7) That Mr. Miller was unable to maintain control over the material he processed in the refinery in the fiscal year 1955, as proven by the discovery of a sizeable quantity of gold the following year, including pieces of gold in melted form.
17. The record also recounts the incidents of 1947 and 1948 during which time Mr. Miller's refinery employees were gassed and hospitalized. This incident resulted in the dissemination of a skilled refinery staff inherited by Mr. Miller from his predecessor.
18. The record also shows Mr. Miller's expressed disrespect of his superior officers, his unwillingness to accept any responsibility for the refinery loss or the refinery gassing.

His intemperate attitude when Mint officials, during a conference, attempted to discuss these matters with him, and that he first tried to pass the responsibility for the refinery loss to the Cashier on the grounds of "tight weighing," but is now proposing to pass the responsibility to the Assayer on the basis of "tight assaying."

19. A legal question has also arisen as to whether the effect of this policy, which now requires legally that the Assayer anticipate any future refinery loss which may occur, may have the effect of destroying the Superintendent's present protection by the law which provides for legal wastage. This is a safeguard which any Superintendent in the Mint Service would not be willing to relinquish upon the basis of any one person's opinion.

We respectfully urge your consideration before accepting the conclusions:

1. That "tight assaying" accounts in any way for any part of the refinery loss of 1955.
2. That the Denver Mint should be required to depart from traditional practice and follow a policy which, according to our information, would require the same departure by other Mint institutions.
3. That the proposed policy is necessary to protect the Government.

We should appreciate as soon as possible a ruling from you, based upon these matters, together with a further opportunity on our part to present to you personally the grave perils which we think confront

the Mint Service if this policy is pursued. Needless to say, we remain ready to carry out the instructions of the Bureau of the Mint.

Insert #1: Needless to say, neither Mr. Merrill nor I, nor any of the Mint officials here, would question any policy proposed by the Bureau unless it dealt with the gravest of circumstances. I know that you are aware of the peculiar legal responsibility which is invested in me as an insuror of the values at the Denver Mint, and is vested in Mr. Merrill by reason of his primary responsibility for the correctness of assays. I cannot do other than say to you what has just been said to me by Mr. Merrill: "The Denver assays are correct."

Insert #2: As I have previously pointed out, it was impossible for me, last week, to discuss your new statement of policy with Mr. Tate's committee. I am relying, however, in reciting the above, upon assurances given me by Mr. Merrill, whose service goes back to 1934 and who has, for a good number of years, been the second in command in the Assay Division, and for extended periods the Acting Head of the Division prior to his recent Presidential appointment.^P I rely also upon Mr. Bruce La Follette, who served as a Junior Assayer of this Mint for several years during the early twenties, was given a Presidential appointment as Assayer in 1933, and served in that capacity until 1944 and is, as almost everyone in the Mint Service would concede, exceptionally well informed on all technical matters of

the Mint Service.

I depend further upon Mr. Walter Judge, who served in the Assay Division from 1928 to 1944, at times as the Acting Head of that Division, who also served in the Melting and Refining Division as Assistant to Mr. Elry Wagon, the Superintendent of the Melting and Refining Division, who during his tenure of office was recognized as a preeminent authority in the field of refining. The administrative officials at the Denver Mint and the Denver staff in general expected Mr. Judge to succeed Mr. Wagon. He did not succeed him due to the transfer of Mr. Charles Miller, who was given the post instead.

The opinion of Mr. Cecil Gray has also merited attention. Mr. Gray has many years of experience, as you know, in Mint assaying. He served as Assayer in Charge of the New Orleans Mint under a Presidential appointment in 1933, and is familiar with the practices with respect to weighing and assaying at that institution during the time he was there. He also served at the New York Assay Office and it is a matter of record that he has stated that New York follows the same practice as Denver and that he many times compared the reported assays on which deposits were paid and found them to be the same as the result arrived at by scientific determination.

I have considerable faith, also, in Mr. Philippus, who began his Mint career in the Cashier's Office in 1934, and has been progressively promoted to his present post. There would be few people so bold as to say that Mr. Philippus is not meticulous and painstaking in carrying out Mint regulations to the last detail.

I also rely on Mr. Reddish because we have found that his training and academic background, with a law degree and a degree in accounting, in addition to the twenty-four years spent in service at the Denver Mint, has made him exceptionally qualified to serve as Assistant Superintendent because of his wide knowledge of all Mint operations.

From the above you can readily see that I have great faith in the Mint staff. I make no apology for that faith and neither can I accept your statement that comments of ours are "irresponsible", since

GRAINS:

Article III, Section 8, Page 10 Transaction of Business at Mints.

A depositor shall be credited with the after-melting weight of his bullion. A depositor shall have the benefit of the granules in the flux which shall be separately ground and washed, and also shall have the benefit of the scrapings of the crucibles in which the deposit is melted.

Conduct of Officers - Part 10, Section 10, Page 70.

Heads of divisions shall without delay report to the Superintendent, or to such other officer as is in general charge, any suspicion or instance of neglect of duty or lack of integrity of any of the persons employed in their divisions, and shall also report to him any suspicion of breach of integrity elsewhere in the institution. Such information shall be immediately communicated by the officer in charge to the Director.

TABLE OF CHARGES, Section 90.1 part (d).

Deposits which fail to give concordant assays and those requiring an excessive amount of treatment, shall, at the discretion of the officer in charge, be subject to an additional charge equal to the cost to the Government for additional fuel, labor, and materials used in melting and treatment, as well as in remelting and ~~treatment~~ treatment, as well as in remelting and retreatment, if necessary, by the deposit melter.

La Follette
Juge
Grey
Miller
Philips
Merrill

(1)
Op. in 1953
Time 15\$4

Reums for Refinery Losses 1955

Tours PM.

Personnel Situation - R.I.F.

Miller

Began operating at a faster rate - not too fast.

Aug 1954 - switch in assays - found immediately

Aug 1954 - instituted check record - ^{silver} anodes in refining melting room.
Miller said they deposits weren't building up -
estimated that approx 500 ops less per year. Miller
said.

Circumstances under which anode check stopped -
Miller was at Quicks Caffene at S.F.

Practice of Miller examining the assays on the
anodes, ~~shouldn't tell Miller~~, record proved to
be

Sept 15, 1954 - 2 Barrels of Sweeps put in trash.

Two pieces of gold hooks - Miller hadn't heard
about it prior to S.S. investigation.

SwC Op - worked alone on metallics

Hull experimented - contributed losses - hampered production
Hull made enemies -

Explosive movement between Eng. & Refining
Melting Room. Miller said they didn't

Hull's system of anode check-off
for gold anodes - worked pretty good.

Lack of co-ordin between Hull & Boswell -

Miller - true. Boswell's testimony against
Hull to S.S. should be discounted.

Hull made the men wear safety shoes - they didn't like

Barren solution: - Double checked by assayer

Loss - impossible

Flushing gold chloride down toilet. Miller: could
have been an act of sabotage.

Sweeps: - handling of metallics

Frame-ups on Hull - Miller said there was no
switch on the bars.

Probability of values being hidden: -

Miller: - indicated that 500 oz showed up
in feed bag of jig, following year. Miller
guesses that someone held them to help me.

Or, to frame Hull.

Never has been solved where material came from.

Question: - S.F. Gold is short wt - but he
thinks gold is there.

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TATE
CHAIRMAN

TELEPHONED BY _____

TELEPHONE TO _____

TIME TELEPHONED _____

October 3, 1958

MEMORANDUM

TO : Mrs. Alma K. Schneider, Superintendent
Denver Mint

FROM : Frederick W. Tate, Chairman
Director's Committee

I have today received the following telegram from the Director of the Mints:

FREDERICK TATE

"Oct. 3, 1958-9430 AM

UNITED STATES MINT DMR
DENVER WAS FURNISHED RESULTS OF ASSAYS MADE AT NEW YORK ON THIRTY-FIVE DENVER MASS MELTS. THOSE RESULTS REPRESENT STANDARD, ROUTINE PROCEDURES AT NEW YORK AND ARE THE REPORTED PRACTICENESS OF THAT ASSAYER. GOLD CONTENT FOR THE MELTS WOULD HAVE BEEN CALCULATED AT NEW YORK FROM THESE ASSAYS HAD THE BULLION BEEN RECEIVED AS DEPOSITS OR WERE THE MELTS BEING PRESENTED IN SETTLEMENT. NO DENVER OR NEW YORK OFFICIAL IS BEING ASKED HIS OPINION AS TO THE VALIDITY OF ANY ASSAY AT ANOTHER INSTITUTION. NO ASSAY CONTROVERSY EXISTS BETWEEN NEW YORK AND DENVER AND NO EFFORTS TO INITIATE ONE SHOULD BE TOLERATED. IN LETTERS OF SEPTEMBER 21 I GAVE ALL FIELD INSTITUTIONS A STATEMENT OF THE LEGAL BASIS FOR THE EVALUATION OF DEPOSITS. QUESTIONS FOR YOUR COMMITTEE TO ANSWER WHILE AT DENVER ARE (1) DO DENVER OFFICIALS UNDERSTAND THIS STATEMENT AND THE PRINCIPLE THAT A PROPER ASSAY WILL PRIMARILY PROTECT THE GOVERNMENT INTEREST WHILE STILL PROVIDING A FAIR RETURN TO THE DEPOSITOR AND (2) IF SO, IS THE ASSAYER CAPABLE OF MAKING AND REPORTING SUCH ASSAYS? I PLAN TO CHECK PERIODICALLY ALL FIELD INSTITUTIONS RECEIVING BULLION TO INSURE THAT THE LAW IS BEING OBSERVED.

BEST DIRECTOR*

The telegram includes the following questions:

"DO DENVER OFFICIALS UNDERSTAND THIS STATEMENT AND THE PRINCIPLE THAT A PROPER ASSAY WILL PRIMARILY PROTECT THE GOVERNMENT INTEREST WHILE STILL PROVIDING A FAIR RETURN TO THE DEPOSITOR?"

I would appreciate receiving from you a reply to the above question, in writing.

Frederick W. Tate
Chairman, Director's Committee

Tel. Call

10/10/58

1. ~~Specimen~~ ⁶⁸ ~~is~~ ⁱⁿ ~~order~~ ^{to} ~~be~~ ^{sent} ~~to~~ ^{you} ~~for~~ ^{examination} ~~and~~ ^{for} ~~your~~ ^{information} ~~as~~ ^{you} ~~want~~ ^{it}.
2. ~~Specimen~~ ⁶⁸ ~~is~~ ⁱⁿ ~~order~~ ^{to} ~~be~~ ^{sent} ~~to~~ ^{you} ~~for~~ ^{examination} ~~and~~ ^{for} ~~your~~ ^{information} ~~as~~ ^{you} ~~want~~ ^{it}.
- Read ~~Specimen~~ ⁶⁸ ~~is~~ ⁱⁿ ~~order~~ ^{to} ~~be~~ ^{sent} ~~to~~ ^{you} ~~for~~ ^{examination} ~~and~~ ^{for} ~~your~~ ^{information} ~~as~~ ^{you} ~~want~~ ^{it}.
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~~Specimen~~ ⁶⁸ ~~is~~ ⁱⁿ ~~order~~ ^{to} ~~be~~ ^{sent} ~~to~~ ^{you} ~~for~~ ^{examination} ~~and~~ ^{for} ~~your~~ ^{information} ~~as~~ ^{you} ~~want~~ ^{it}.

Practices uniform

7-10. ✓ 16.)

gold in NY b - go - m -
8-16.

7-16 (7-16) ✓ 1-16 m
7-16 ✓ 1-16 m

NY C P.C. in G G)
NY C P.C. in G G)

2. 20 Nov 1971

Mrs. S:

accede & copy it 100%

- ~ / 2

— — —

Emotion =

October 13, 1958

AIR-MAIL

Director of the Mint
Washington 25, D. C.

Dear Sirs:

Enclosed is a report submitted by Mr. Merrill
and Mr. Reddish which is self-explanatory.

We shall await your further advice and instruc-
tions.

Very truly yours,

Superintendent

October 13, 1958

MEMORANDUM

TO : Mrs. Alma K. Schneider
Superintendent

FROM : Richard L. Merrill, Assayer
Marshall M. Reddish, Assistant Superintendent

The undersigned submit to you the attached report upon conferences held with the Director's Committee regarding the new restatement of assay policy recently issued by the Director of the Mint.

Certain statements are made as to what we think represent the agreements reached with the Director's representatives as to the necessity for clarification of the Director's policy. Following the statements are excerpts from the recorded discussions on the point. The conference, which was tape-recorded in view of your absence, was attended by Messrs. Tate, Neisser and Wiggen for the Bureau and Messrs. Reddish, Merrill, La Follette, Judge and Philippus for the Denver Mint. Messrs. Miller and Gray also participated during the latter part of the conference.

We respectfully suggest that this report be forwarded to the Director of the Mint, together with a recommendation for clarification and additional information. We assume that the samples from New York promised to us by the Director in his letter of September 25 will be forthcoming. Those samples will enable us to set up guidelines for the new policy.

We would be less than honest if we did not say that it is our opinion, and that of Messrs. La Follette, Judge and Gray, that the Denver Mint's present assay reporting procedure provides sufficient material so that what has been paid for can be recovered. In saying this, we assume that the Assayer is not to be held responsible for theft or inefficiency in the operation of the Refinery.

October 13, 1958

1. Mr. Neisser and Mr. Tate agreed that the policy of the Director of the Mint with respect to the Assayer's responsibility, as set forth in his letter of September 23, would not have to be put into effect until samples are sent from the New York Assay Office, together with other information as to why and how the scientific determination of fineness has been adjusted downward by that office through "Assayer's discretion."

Mr. Tate: "Well, let me say it this way - we're speaking of the exercise of judgment by the Assayer in reporting the assays in accordance with legal requirements, which do require that the metal be processed through the Refinery without losses."

Mr. Reddish: "All right. Now, this is not a matter in which you are going to wait for determining the policy until your investigation is over - is it? This is a matter that is now already on record, this is a matter which the Director has set in writing, this is now the policy of the Mint Service. So, this policy is supposed to begin today with the deposits that we have right now, and on this basis, right now, Mr. Merrill is supposed to take these assays, as I understand it, after his men have determined, and he is supposed to apply some kind of reduction to them."

Mr. Neisser: "Again, this is not a question of reduction - it's a question of application of judgment in order to protect the United States-----"

Mr. Reddish: "But it results in reduction, doesn't it?"

Mr. Neissner: "It results in a lower report of assays on low-grade, unparted and unrefined bullion. That is the sense and substance of it."

Mr. Tate: "Marshall, you said this policy should start today. This policy should have been in effect all the time because the law hasn't changed since 1873."

Mr. Reddish: "All right. Then, am I correct in this? That as of right now - as of this moment - since we have these instructions, the Assayer is now under a burden to apply this matter of discretion."

Mr. Tate: "I wouldn't call it a burden. I would say that is what his job requires him to do, to report them the way the law tells him to do so."

Mr. Reddish: "All right, then, I think that he is entitled to ask you - he has assays going through right now - how much he will lessen, lower figure, reduce - I don't know how to come up with another term for it. Just in my simple way I know that we are trying to cut down the assay. That is, the intention of this is to cut down the assay to the depositor. Now, how is this Assayer going to do this? How much is he going to cut down?"

Mr. Tate: "We discussed this very point at New York, and Dick will recall that we said that it would be very difficult to say the Assayer will exercise his judgment in regard to a certain amount. Now, we did develop, as we've said before, based on the statement of two Refinery operators, that if you report an

straight averages, you are not providing enough material to go through the Refinery without losses. It would be difficult to say today - and we did say this in New York - how much judgment should be exercised, how much consideration should be given to these various elements to permit them to go through the Refinery. You couldn't apply the same logic to two or three deposits in a row, I believe it's just a matter where the Assayer has to use his scientific knowledge, after he has known what is in a deposit - if it contains lead, if it contains arsenic or zinc. He knows that that, first of all, can trouble the assay and he knows that it's going to give trouble when it goes through the Refinery, and therefore if he reports on a straight average basis, they can't get that much gold out of it."

Mr. Neissers: "The question raised as to the amount to be charged on different deposits is one that will never be settled by any arithmetic computation or any series - any groupings which could be laid out on a graph or chart for the guidance of the Assayer. There are a thousand different situations to be encountered in the normal receipt, day to day, of deposits. The Assayer has to use his own technical knowledge and skill, plus the information from the Melter and Refiner in order to reach a decision in each case. Now, in this special instance here at Denver, the Assayer recognizing - or the statement having been made and established here that it has not been the practice to do so in the past, it is certainly recognized that the Assayer today is left bare with regard to this; he is caught in a situation where he,

since he has not been exercising this kind of thing, he doesn't know quite what to do. You have asked for, and the Director has authorized, the sending of certain deposit samples from New York, with accompanying information received in the deposit room and in the Assay Division as to what was observed and what kind of judgment resulted therefrom. That information will be given to Mr. Merrill as soon as possible. In the meantime, he certainly ought not be expected to operate bare. The end of this situation rests in a full-scale Assayers Conference when this matter can be discussed with all the Assayers of the United States and they will be given an opportunity around the table to discuss their experiences."

Mr. Reddick: "Well, here is the thing. You have just said, and I think that that is fair, that you agree that Mr. Merrill cannot begin this process of the discretion which results in a lower assay until he has some measure, and I think you agree with that."

Mr. Weisser: "This is the kind of measure that can be developed only by interchange of information between Mr. Merrill and the other Assayers of the United States on a complete, full-scale, round-table-conference basis, but it's obvious that we can't set that up to meet an immediate deposit situation. He is authorized to, and may, if necessary, telephone the Assayer at New York, after he has received and studied the samples and the reports accompanying those samples. If he has further questions on other types, there is no reason----he should be, and will be, it is my understanding the Director will permit him to contact the Assayer

at New York by telephone at any time in this situation - or other Assayers. I merely mention the New York Assayer because he is familiar with this situation and it would be easiest to so disclose, that is, between them, what the practice under the law is, and I think that the matter could be settled very rapidly with regard to the present deposit situation."

Mr. Reddish: "You've been on this subject and you've looked over these assays, and I know that you make assays yourself and are familiar with the science. Now, you've seen some of these assays, you know something about the mass melts, could you say any particular type of deposit that you would make a certain allowance for?"

Mr. Neisser: "I do not feel that, in view of the fact that in doing the assaying for the Director, it has ever been incumbent upon me, from where I sit, to make assays on low-grade, unparted bullion, under the present living situation in which we now are. The Bureau has done so extremely infrequently, we have no staff in Washington for the performance of low-grade, unparted bullion assays, we don't do them, and it is my present position that it is a matter to be settled by the Assayers of the United States who have the current responsibility in the matter, and I believe that it will be settled - again, I say - on a round-table basis. The Director will call a conference and all Assayers of the United States will be brought around the table, and the doctors will be given a chance to examine every patient that they want to talk to."

Mr. Reddish: "I think that's fine. Also, though, I would like

to ask Mr. Tate whether he concurs with you, Phil, that as of right now, that our Assayer, not having any guidelines as to how he is going to cut these deposits down with a view to getting more material into the Refinery, whether you agree that it is all right until there are some guidelines developed that he carry on as he is now?"

Mr. Tate: "New York has already been ordered - requested - to send the material out that was requested from here, and I think it certainly would be well for Dick to wait until he gets that, and go over it, then take it from that point."

2. Your committee, headed by Mr. Tate, told us that it is unable to give us instruction as to how this "Assayer's discretion" is to be exercised. (See excerpt under Item No. 1.)
3. A confusion exists as to what transpired at the New York conference and what New York assay practices actually are.

Mr. Reddish: "Let me ask you a question again because I want to be sure. I'm not an expert in the assay field. I'd like to ask you this as a technical man and as an Assayer. Representing the Mint and knowing this matter was under discussion, did the New York men say to you that they thought our assays were wrong?"

Mr. Merrills: "They did not."

Mr. Reddish: "Did they explain the difference? Did they account for why they reported the first time a certain figure and again when they reassayed, that they came up with the same basic determinations as you did?"

Mr. Merrill: "They never made any explanation of that at all."

Mr. Reddish: "One more question, I see something there.....

"Did they, on these reassays, confirm determinations which you made?"

Mr. Merrill: "Yes."

Mr. Reddish: "Was there anything said in the conference by New York to indicate that they made allowance or adjustment, or how they made it?"

Mr. Merrill: "Never."

Mr. Tate: "Excuse me, let me say something. During the conference there appeared some hesitancy on the part of the New York people to discuss the manner in which the allowances were made. Mr. Johnson did admit to Wiggen and Neisser that he was making allowances, and during the afternoon of the last day, in summing up our conclusions, I did state to the Committee there that New York was making allowances in the application of their proofs, as I recall. Let me add, I don't know anything about assaying. But the New York boys did concur in this and of course the figures also, as I stated in summing up our conclusion, the original results indicated that allowances had been made and the New York Assayers did concur in the fact that they had made their adjustments or allowances in the application of the proofs. Phil, do you want to say something on that?"

Mr. Neisser: "I confirm what Mr. Tate has just said. It appears to me that for the balance of the discussion we ought to surely

take note of the difference between the word, 'assay', as reported and the word, 'determination.' I would like to comment that the determinations made by both New York and Denver were so close as to throw out any possibility of there being any serious difference in procedures of the two institutions. The point of issue here rests in the definition and its application to the law as to what constitutes an 'assay' on the one hand and second, the Mint's meaning of the word 'determination.' - assay determination."

Mr. Reddish: "Excuse me. Naturally, when Mr. Merrill came back from New York, as you can see already from what has been said, that his understanding as to what went on at the conference is not the same as yours, and we were very interested in the reaction of New York. Now, do you recall, Mr. Tate or Mr. Meissner, Mr. Higgin - I guess you were there too - do you recall during the time when Mr. Tate was summing up and referring to New York's method being to make some adjustment in the assay by using discretion, do you recall, Mr. Tate, and any of the others of you, Mr. Merrill stopping you momentarily and indicating that he did not agree with you?"

Mr. Tate: "Yes, I do recall that very specifically, and as I said previously, the Assayer had indicated that he had been making the adjustments - that's the proper word - had been making the adjustments in the proofs. That statement had not been made, I don't believe, in the presence of Dick Merrill, and it could be that up to that time, Dick was still completely in the dark

as to why the original assays had been so far apart and why the reassays, without correction, had been so close together. So, at that point when Dick stopped me, I said, 'Dick, let's get back to the original results.' I think Dick will recall this. When they were originally assayed, when New York was low and Denver was high, and I am referring to that - that does indicate to me that New York is making the adjustment. Do you recall that, Dick?"

Mr. Merrill: "I don't recall it just exactly that way. I asked both Mr. Johnson and Mr. Lovisek at that time if they were using Assayer's discretion or whether they reported them on the average. They both stated they reported them on the average then."

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4. This Mint has followed the present assay practices of reporting upon the basis of scientific determination since the 1920's.

Mr. Reddish: "Thank you, Fred. First of all, I would like to ask Dick Merrill. Dick, in your connection with the Assay Division, which goes back to 1934, will you tell me whether or not a practice has ever been employed of using a reduction - an allowance, a discretion, a matter of judgment, such as is suggested here?"

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Mr. Reddish: "I would like to turn to Mr. La Follette, whom,

as I have said before, is the Superintendent of Coinage, is, in fact, tremendously informed, as everybody readily concedes, on all phases of the Mint Service, who was Presidential appointee as Assayer from 1933 to 1944, I believe, and who also during a period in the 20's was in our Assay Department. I would like to ask Mr. La Follette whether this matter of reduction, allowance, discretion or use of judgment was every employed by the Assay Division, to his knowledge?"

Mr. La Follette: "No. No discretion, judgment, or anything of the kind was applied. The assay procedures that were applied were as near to the correct technical practice as our knowledge of assaying and knowledge of what we knew was being done in mining industry under similar circumstances. The heart of the gold assay procedure is proofing, and in order to make proof as nearly representative of the sample or samples that you are assaying, you have to have knowledge of the bullion - the type of bullion that it is. You have to build a proof with the amount of gold in it that approximates the amount of gold in the sample and an amount of base, which is usually copper, copper affecting the assay more than anything else, and getting that proof so that you will be able to get a correction to apply to the assays representing the bullion in the same fineness with these proofs, and apply a correction that is as near the proper correction as it is possible, with your knowledge, to arrive at. Then, of course, always having at least two men working independently of each other on samples, or on duplicate samples, and then applying

the arithmetical average of your results if they are in what you would consider to be a close range of checks, and after applying that average to the results of each man, each man doing his own correction, by the way, on the basis of his experience, judgment and training in this particular laboratory, and, in the case of gold, reporting the determination of the deposits to the nearest one quarter point in gold, down, never raising a fraction to a higher result - always reporting down to the nearest quarter."

Mr. Reddish: "Let me ask you a question. Let me ask you just one more, before I forget it. In connection with this weighing and the allowance, now, as I understand it - somebody can straighten me out if I am wrong - that both of the men who are working independently, presumably on this allowance or judgment, or whatever it is, both of them would have to operate under the same rules. Let me ask you this: Do you know of any instructions ever being issued to those men performing the weigh-backs of the independent determination? Do you know of any instructions here ever being issued to them to use their judgment?"

Mr. La Follette: "There have never been any instructions to use 'judgment.'"

Mr. Reddish: "After they have made the determination?"

Mr. La Follette: "Only the application of technical knowledge."

Mr. Reddish: "After they had made their determination did you ever take their determinations into your office - or do you know of an Assayer who did - and then proceed to reduce it?"

Mr. La Follette: "No."

Mr. Reddish: "Or to increase?"

Mr. La Follette: "No."

Mr. Reddish: "Thank you very much. I want to call upon Mr. Walter Judge, who is the Assistant Superintendent of Coining. He was in the Assay Division from 1928 to 1944 - would that be about right? '43?"

Mr. Judge: "'43."

Mr. Reddish: "1943, and was Acting Assayer part of the time, were you? And, I would like to ask you, since your experience goes back beyond mine, and beyond Mr. Merrill's, I would like to ask you whether you know of any practice in the Denver Assay Division to make these allowances, or adjustments, or discretions or judgments - I don't know how to term them - I'm trying to 'cover the waterfront' on definitions. Do you know of a practice of that kind?"

Mr. Judge: "No, I do not."

Mr. Reddish: "Do you know of any - well, I think you have answered it, there is no use in belaboring the point. Next thing I would like to bring out: First of all I would like to ask the committee whether they are satisfied that Denver has not followed this practice of the allowance or adjustment or discretion or judgment during the period which these men are talking about. If you feel that they have, now is the time to say so. Is there any question that Denver has not used this method?"

Mr. Weisser: "We have, of course, the statements of Mr. Merrill, Mr. La Follette and Mr. Judge. The only evidential part of this

to date is the reassaying on samples at New York. Within the limits of what we have, I think we must assume at this point that there has been no exercise of judgment, but that remains to be proved with regard to sampling and testing of bullion received and paid for during that period."

Mr. Reddish: "I assume you haven't any further question. That is my understanding. As second official in the Mint and acting for the Superintendent, that is my understanding. Insofar as my own, personal inquiry in connection with this thing is concerned, but I thought perhaps that I didn't know how to ask the question, or something of the kind, and maybe there was something that I didn't know. So, I think that now our people here have confirmed what we have thought - that we have not had this practice of this allowance, etc., that we are talking about. Now, at this point, then, I would like to say that it is the position of the Mint that the history of our Mint will disclose the fact that this allowance of which you are speaking has not been necessary, that our method of assaying, as it has been disclosed to you, has resulted, year by year, in the Refinery, in gains, and only when we get to 1955 do we find - now, I'm speaking of the period from 1920 to 1955, only then do we find a loss and a very troubling loss, as we know. Now, that is our feeling. Our feeling is that that has resulted in our present practice and the laws and regulations as they are carried out here, have resulted in gains, and for that reason we question seriously, and ask the Bureau to consider, whether one should change what one would call

in tennis a 'winning game,' one which is good and which everyone has indicated that they have confidence in here at the Mint, to something different."

5. It is the considered opinion of our technical experts who are most skilled in the field of assaying, including Mr. Merrill, Mr. La Follette, Mr. Judge and Mr. Gray, that the present assay practices at the Denver Mint, under which assays are reported upon the basis of scientific determination, are adequate protection to the Government. These men have always subscribed to the principle that there is inherent in the present weighing and assaying practices at the Denver Mint a taking from the depositor of an additional amount of precious metal and that these practices resulted in continual gains and no losses from 1920 through 1954.

6. These technical men, and others at the Denver Mint, could, it is thought, if the new restatement of assay policy is temporarily suspended, submit constructive suggestions which would protect the Government against further unforeseen losses in Refinery operations.

October 13, 1958

AIR-MAIL

Director of the Mint
Washington 25, D. C.

Dear Sir:

Enclosed is a report submitted by Mr. Merrill
and Mr. Reddish which is self-explanatory.

We shall await your further advice and instruc-
tions.

Very truly yours,

Superintendent

October 13, 1958

MEMORANDUM

TO : Mrs. Alma K. Schneider
Superintendent

FROM : Richard L. Merrill, Assayer
Marshall M. Reddish, Assistant Superintendent

The undersigned submit to you the attached report upon conferences held with the Director's Committee regarding the new restatement of assay policy recently issued by the Director of the Mint.

Certain statements are made as to what we think represent the agreements reached with the Director's representatives as to the necessity for clarification of the Director's policy. Following the statements are excerpts from the recorded discussions on the point. The conference, which was tape-recorded in view of your absence, was attended by Messrs. Tate, Neisser and Wiggen for the Bureau and Messrs. Reddish, Merrill, La Follette, Judge and Philippus for the Denver Mint. Messrs. Miller and Gray also participated during the latter part of the conference.

We respectfully suggest that this report be forwarded to the Director of the Mint, together with a recommendation for clarification and additional information. We assume that the samples from New York promised to us by the Director in his letter of September 25 will be forthcoming. Those samples will enable us to set up guidelines for the new policy.

We would be less than honest if we did not say that it is our opinion, and that of Messrs. La Follette, Judge and Gray, that the Denver Mint's present assay reporting procedure provides sufficient material so that what has been paid for can be recovered. In saying this, we assume that the Assayer is not to be held responsible for theft or inefficiency in the operation of the Refinery.

Richard L Merrill
Marshall M Reddish

ROUGH DRAFT

October 13, 1958

1. Mr. Neisser and Mr. Tate agreed that the policy of the Director of the Mint with respect to the Assayer's responsibility, as set forth in his letter of September 23, would not have to be put into effect until samples are sent from the New York Assay Office, together with other information as to why and how the scientific determination of fineness has been adjusted downward by that office through "Assayer's discretion."

Mr. Tate: "Well, let me say it this way - we're speaking of the exercise of judgment by the Assayer in reporting the assays in accordance with legal requirements, which do require that the metal be processed through the Refinery without losses."

Mr. Reddish: "All right. Now, this is not a matter in which you are going to wait for determining the policy until your investigation is over - is it? This is a matter that is now already on record, this is a matter which the Director has set in writing, this is now the policy of the Mint Service. So, this policy is supposed to begin today with the deposits that we have right now, and on this basis, right now, Mr. Merrill is supposed to take these assays, as I understand it, after his men have determined, and he is supposed to apply some kind of reduction to them."

Mr. Neisser: "Again, this is not a question of reduction - it's a question of application of judgment in order to protect the United States-----"

Mr. Reddish: "But it results in reduction, doesn't it?"

Mr. Neisser: "It results in a lower report of assays on low-grade, unparted and unrefined bullion. That is the sense and substance of it."

Mr. Tate: "Marshall, you said this policy should start today. This policy should have been in effect all the time because the law hasn't changed since 1873."

Mr. Reddish: "All right. Then, am I correct in this? That as of right now - as of this moment - since we have these instructions, the Assayer is now under a burden to apply this matter of discretion."

Mr. Tate: "I wouldn't call it a burden. I would say that is what his job requires him to do, to report them the way the law tells him to do so."

Mr. Reddish: "All right, then, I think that he is entitled to ask you - he has assays going through right now - how much he will lessen, lower figure, reduce - I don't know how to come up with another term for it. Just in my simple way I know that we are trying to cut down the assay. That is, the intention of this is to cut down the assay to the depositor. Now, how is this Assayer going to do this? How much is he going to cut down?"

Mr. Tate: "We discussed this very point at New York, and Dick will recall that we said that it would be very difficult to say the Assayer will exercise his judgment in regard to a certain amount. Now, we did develop, as we've said before, based on the statement of two Refinery operators, that if you report on

straight averages, you are not providing enough material to go through the Refinery without losses. It would be difficult to say today - and we did say this in New York - how much judgment should be exercised, how much consideration should be given to these various elements to permit them to go through the Refinery. You couldn't apply the same logic to two or three deposits in a row. I believe it's just a matter where the Assayer has to use his scientific knowledge, after he has known what is in a deposit - if it contains lead, if it contains arsenic or zinc. He knows that that, first of all, can trouble the assay and he knows that it's going to give trouble when it goes through the Refinery, and therefore if he reports on a straight average basis, they can't get that much gold out of it."

Mr. Neisser: "The question raised as to the amount to be charged on different deposits is one that will never be settled by any arithmetic computation or any series - any groupings which could be laid out on a graph or chart for the guidance of the Assayer. There are a thousand different situations to be encountered in the normal receipt, day to day, of deposits. The Assayer has to use his own technical knowledge and skill, plus the information from the Melter and Refiner in order to reach a decision in each case. Now, in this special instance here at Denver, the Assayer recognizing - or the statement having been made and established here that it has not been the practice to do so in the past, it is certainly recognized that the Assayer today is left bare with regard to this; he is caught in a situation where he,

since he has not been exercising this kind of thing, he doesn't know quite what to do. You have asked for, and the Director has authorized, the sending of certain deposit samples from New York, with accompanying information received in the deposit room and in the Assay Division as to what was observed and what kind of judgment resulted therefrom. That information will be given to Mr. Merrill as soon as possible. In the meantime, he certainly ought not be expected to operate bare. The end of this situation rests in a full-scale Assayers Conference when this matter can be discussed with all the Assayers of the United States and they will be given an opportunity around the table to discuss their experiences."

Mr. Reddish: "Well, here is the thing. You have just said, and I think that that is fair, that you agree that Mr. Merrill cannot begin this process of the discretion which results in a lower assay until he has some measure, and I think you agree with that."

Mr. Neisser: "This is the kind of measure that can be developed only by interchange of information between Mr. Merrill and the other Assayers of the United States on a complete, full-scale, round-table-conference basis, but it's obvious that we can't set that up to meet an immediate deposit situation. He is authorized to, and may, if necessary, telephone the Assayer at New York, after he has received and studied the samples and the reports accompanying those samples. If he has further questions on other types, there is no reason----he should be, and will be, it is my understanding the Director will permit him to contact the Assayer

at New York by telephone at any time in this situation - or other Assayers. I merely mention the New York Assayer because he is familiar with this situation and it would be easiest to so disclose, that is, between them, what the practice under the law is, and I think that the matter could be settled very rapidly with regard to the present deposit situation."

Mr. Reddish: "You've been on this subject and you've looked over these assays, and I know that you make assays yourself and are familiar with the science. Now, you've seen some of these assays, you know something about the mass melts, could you say any particular type of deposit that you would make a certain allowance for?"

Mr. Neisser: "I do not feel that, in view of the fact that in doing the assaying for the Director, it has ever been incumbent upon me, from where I sit, to make assays on low-grade, unparted bullion, under the present living situation in which we now are. The Bureau has done so extremely infrequently, we have no staff in Washington for the performance of low-grade, unparted bullion assays, we don't do them, and it is my present position that it is a matter to be settled by the Assayers of the United States who have the current responsibility in the matter, and I believe that it will be settled - again, I say - on a round-table basis. The Director will call a conference and all Assayers of the United States will be brought around the table, and the doctors will be given a chance to examine every patient that they want to talk to."

Mr. Reddish: "I think that's fine. Also, though, I would like

to ask Mr. Tate whether he concurs with you, Phil, that as of right now, that our Assayer, not having any guidelines as to how he is going to cut these deposits down with a view to getting more material into the Refinery, whether you agree that it is all right until there are some guidelines developed that he carry on as he is now?"

Mr. Tate: "New York has already been ordered - requested - to send the material out that was requested from here, and I think it certainly would be well for Dick to wait until he gets that, and go over it, then take it from that point."

2. Your committee, headed by Mr. Tate, told us that it is unable to give us instruction as to how this "Assayer's discretion" is to be exercised. (See excerpt under Item No. 1.)
3. A confusion exists as to what transpired at the New York conference and what New York assay practices actually are.

Mr. Reddish: "Let me ask you a question again because I want to be sure. I'm not an expert in the assay field. I'd like to ask you this as a technical man and as an Assayer. Representing the Mint and knowing this matter was under discussion, did the New York men say to you that they thought our assays were wrong?"

Mr. Merrill: "They did not."

Mr. Reddish: "Did they explain the difference? Did they account for why they reported the first time a certain figure and again when they reassayed, that they came up with the same basic determinations as you did?"

Mr. Merrill: "They never made any explanation of that at all."

Mr. Reddish: "One more question, I see something there.....

"Di they, on these reassays, confirm determinations which you made?"

Mr. Merrill: "Yes."

Mr. Reddish: "Was there anything said in the conference by New York to indicate that they made allowance or adjustment, or how they made it?"

Mr. Merrill: "Never."

Mr. Tate: "Excuse me, let me say something. During the conference there appeared some hesitancy on the part of the New York people to discuss the manner in which the allowances were made. Mr. Johnson did admit to Wiggen and Neisser that he was making allowances, and during the afternoon of the last day, in summing up our conclusions, I did state to the Committee there that New York was making allowances in the application of their proofs, as I recall. Let me add, I don't know anything about assaying. But the New York boys did concur in this and of course the figures also, as I stated in summing up our conclusion, the original results indicated that allowances had been made and the New York Assayers did concur in the fact that they had made their adjustments or allowances in the application of the proofs. Phil, do you want to say something on that?"

Mr. Neisser: "I confirm what Mr. Tate has just said. It appears to me that for the balance of the discussion we ought to surely

take note of the difference between the word, 'assay', as reported and the word, 'determination.' I would like to comment that the determinations made by both New York and Denver were so close as to throw out any possibility of there being any serious difference in procedures of the two institutions. The point of issue here rests in the definition and its application to the law as to what constitutes an 'assay' on the one hand and second, the Mint's meaning of the word 'determination.' - assay determination."

Mr. Reddish: "Excuse me. Naturally, when Mr. Merrill came back from New York, as you can see already from what has been said, that his understanding as to what went on at the conference is not the same as yours, and we were very interested in the reaction of New York. Now, do you recall, Mr. Tate or Mr. Neisser, Mr. Wiggen - I guess you were there too - do you recall during the time when Mr. Tate was summing up and referring to New York's method being to make some adjustment in the assay by using discretion, do you recall, Mr. Tate, and any of the others of you, Mr. Merrill stopping you momentarily and indicating that he did not agree with you?"

Mr. Tate: "Yes, I do recall that very specifically, and as I said previously, the Assayer had indicated that he had been making the adjustments - that's the proper word - had been making the adjustments in the proofs. That statement had not been made, I don't believe, in the presence of Dick Merrill, and it could be that up to that time, Dick was still completely in the dark

as to why the original assays had been so far apart and why the reassays, without correction, had been so close together. So, at that point when Dick stopped me, I said, 'Dick, let's get back to the original results.' I think Dick will recall this. When they were originally assayed, when New York was low and Denver was high, and I am referring to that - that that does indicate to me that New York is making the adjustment. Do you recall that, Dick?"

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Mr. La Follette: "No. No discretion, judgment, or anything of the kind was applied. The assay procedures that were applied were as near to the correct technical practice as our knowledge of assaying and knowledge of what we knew was being done in mining industry under similar circumstances. The heart of the gold assay procedure is proofing, and in order to make proof as nearly representative of the sample or samples that you are assaying, you have to have knowledge of the bullion - the type of bullion that it is. You have to build a proof with the amount of gold in it that approximates the amount of gold in the sample and an amount of base, which is usually copper, copper affecting the assay more than anything else, and getting that proof so that you will be able to get a correction to apply to the assays representing the bullion in the same fineness with these proofs, and apply a correction that is as near the proper correction as it is possible, with your knowledge, to arrive at. Then, of course, always having at least two men working independently of each other on samples, or on duplicate samples, and then applying

the arithmetical average of your results if they are in what you would consider to be a close range of checks, and after applying that average to the results of each man, each man doing his own correction, by the way, on the basis of his experience, judgment and training in this particular laboratory, and, in the case of gold, reporting the determination of the deposits to the nearest one quarter point in gold, down, never raising a fraction to a higher result - always reporting down to the nearest quarter."

Mr. Reddish: "Let me ask you a question. Let me ask you just one more, before I forget it. In connection with this weighing and the allowance, now, as I understand it - somebody can straighten me out if I am wrong - that both of the men who are working independently, presumably on this allowance or judgment, or whatever it is, both of them would have to operate under the same rules. Let me ask you this: Do you know of any instructions ever being issued to those men performing the weigh-backs of the independent determination? Do you know of any instructions here ever being issued to them to use their judgment?"

Mr. La Follette: "There have never been any instructions to use 'judgment.'"

Mr. Reddish: "After they have made the determination?"

Mr. La Follette: "Only the application of technical knowledge."

Mr. Reddish: "After they had made their determination did you ever take their determinations into your office - or do you know of an Assayer who did - and then proceed to reduce it?"

Mr. La Follette: "No."

Mr. Reddish: "Or to increase?"

Mr. La Follette: "No."

Mr. Reddish: "Thank you very much. I want to call upon Mr. Walter Judge, who is the Assistant Superintendent of Coining. He was in the Assay Division from 1928 to 1944 - would that be about right? '43?"

Mr. Judge: "'43."

Mr. Reddish: "1943, and was Acting Assayer part of the time, were you? And, I would like to ask you, since your experience goes back beyond mine, and beyond Mr. Merrill's, I would like to ask you whether you know of any practice in the Denver Assay Division to make these allowances, or adjustments, or discretions or judgments - I don't know how to term them - I'm trying to 'cover the waterfront' on definitions. Do you know of a practice of that kind?"

Mr. Judge: "No, I do not."

Mr. Reddish: "Do you know of any - well, I think you have answered it, there is no use in belaboring the point. Next thing I would like to bring out: First of all I would like to ask the committee whether they are satisfied that Denver has not followed this practice of the allowance or adjustment or discretion or judgment during the period which these men are talking about. If you feel that they have, now is the time to say so. Is there any question that Denver has not used this method?"

Mr. Neisser: "We have, of course, the statements of Mr. Merrill, Mr. La Follette and Mr. Judge. The only evidential part of this

to date is the reassaying on samples at New York. Within the limits of what we have, I think we must assume at this point that there has been no exercise of judgment, but that remains to be proved with regard to sampling and testing of bullion received and paid for during that period."

Mr. Reddish: "I assume you haven't any further question. That is my understanding. As second official in the Mint and acting for the Superintendent, that is my understanding. Insofar as my own, personal inquiry in connection with this thing is concerned, but I thought perhaps that I didn't know how to ask the question, or something of the kind, and maybe there was something that I didn't know. So, I think that now our people here have confirmed what we have thought - that we have not had this practice of this allowance, etc., that we are talking about. Now, at this point, then, I would like to say that it is the position of the Mint that the history of our Mint will disclose the fact that this allowance of which you are speaking has not been necessary, that our method of assaying, as it has been disclosed to you, has resulted, year by year, in the Refinery, in gains, and only when we get to 1955 do we find - now, I'm speaking of the period from 1920 to 1955, only then do we find a loss and a very troubling loss, as we know. Now, that is our feeling. Our feeling is that that has resulted in our present practice and the laws and regulations as they are carried out here, have resulted in gains, and for that reason we question seriously, and ask the Bureau to consider, whether one should change what one would call

in tennis a 'winning game,' one which is good and which everyone has indicated that they have confidence in here at the Mint, to something different."

5. It is the considered opinion of our technical experts who are most skilled in the field of assaying, including Mr. Merrill, Mr. La Follette, Mr. Judge and Mr. Gray, that the present assay practices at the Denver Mint, under which assays are reported upon the basis of scientific determination, are adequate protection to the Government. These men have always subscribed to the principle that there is inherent in the present weighing and assaying practices at the Denver Mint a taking from the depositor of an additional amount of precious metal and that these practices resulted in continual gains and no losses from 1920 through 1954.

6. These technical men, and others at the Denver Mint, could, it is thought, if the new restatement of assay policy is temporarily suspended, submit constructive suggestions which would protect the Government against further unforeseen losses in Refinery operations.

October 14, 1958

Mr. Lawrence Robbins
Assistant Secretary
U. S. Treasury Department
Washington, D. C.

Dear Mr. Robbins:

Since you were kind enough to visit our Mint and show an interest in our problem, it has occurred to me that you might like to see current copies of our correspondence relative to the subject.

We hope that you may at some future time, pay us another visit when we can show you our Mint operations in greater detail.

Respectfully,

AKS:ms



TREASURY DEPARTMENT

WASHINGTON 25

OFFICE OF
DIRECTOR OF THE MINT
REPLY MAIL

October 16, 1958

6. 1. 1958 / 10-10-5

Superintendent,
United States Mint,
Denver 2, Colorado.

Dear Madam:

I have received your letter of October 13, 1958 with which you enclosed a memorandum from Mr. Merrill and Mr. Reddish requesting the suspension of my directive of September 23rd concerning assay procedure.

My interest in this matter is simply to determine whether or not the values presently reported by each Mint institution to me and by me to the Secretary are actually present and recoverable and to insure that values acquired in the future are recoverable.

To me the issue is so simple as to admit of no misunderstanding. I set forth in my directive the restatement of the legal theory and practical application of the assaying procedure in the evaluation of deposits. I cannot see how it can be maintained that payment should be made on the same mathematical basis to a depositor who gives us gold .999 fine and one who gives us gold .200 fine with materials contained therein which prevent an accurate assay and which it is known will cause a loss of metal when refined. It was never intended that payment for low grade bullion be made without deductions and adjustments. It has never been the practice in any other institution and if the purely mathematical determination, averaging assays which cannot by the very nature of the subject matter be accurate, has always been followed, as is claimed in the memorandum, in your institution, then the values reported by you may not be recoverable.

Until I have the complete report from my Committee, which is at present at your institution, but whose consideration of this matter has been temporarily suspended for the performance of other duties for me, I have no further comments to make.

Very truly yours,

Director of the Mint.



TREASURY DEPARTMENT
WASHINGTON 25

OFFICE OF
DIRECTOR OF THE MINT
IN REPLYING QUOTE INITIALS

October 20, 1958

RECEIVED

OCT 22 1958

SUPERINTENDENT
U. S. MINT

Superintendent,
United States Mint,
Denver 2, Colorado.

Dear Madam:

I am advised that only a small portion of the tape recording of the proceedings of my Committee has been transcribed, because of a shortage of typists and stenographers in your office.

Please forward immediately to this office by registered air mail the complete tape recording. We will send you a copy of the record after transcription.

Very truly yours,

Director of the Mint.

October 21, 1958

AIR-MAIL

Director of the Mint
Washington 25, D. C.

Dear Sir:

Enclosed is a memorandum prepared jointly by Mr. Merrill and Mr. Reddish in which they comment upon your letter of October 16. The memorandum appears to be self-explanatory.

Very truly yours,

Superintendent

October 21, 1958

MEMORANDUM

TO : Mrs. Alma K. Schneider, Superintendent
FROM : Richard L. Merrill, Assayer
Marshall M. Reddish, Assistant Superintendent

We have received copies of the Director's letter to you of October 16, and have given the letter our most careful and thoughtful attention. We feel that it is possible that the Denver Mint's position has not been made clear to the Director. We, therefore, offer the following in clarification:

1. It should be recalled that the New York conference authenticated the basic scientific determinations of the Denver Mint.
2. Our present system of assay reporting takes more away from the depositor than he is paid for. We estimate the effect of reporting to the lower quarter point as taking from the depositor about 12½ ounces of gold per 100,000. Thus, if we process five million gross ounces of bullion in the Refinery, we have put into the Refinery 625 ounces of gold in excess of that paid for.
3. In addition to the amount taken away from the depositor by reason of the assay reporting, there is another factor which should be considered in determining whether it is the Government or the depositor that is being short-changed. We refer to the gains which accrue through Homestake deposits, grains, bar recoveries, Cottrell recoveries and deposit sweeps and quarterly surplus bullion recoveries. All of these represent gold which was taken from the depositors without payment and which we recovered. For the last fiscal year we compute the total of these items as 29½ fine ounces of gold.
4. An unanswered question is: What amount of additional gold must be taken from the depositor and put into the Refinery in order to prevent Refinery losses? In discussing the processing loss which might be expected in putting material through the Refinery, it has been suggested that something in the neighborhood of 200 ounces would be required. Such an amount does not, of course, provide for inefficiency in operation or undiscovered theft.

5. We feel that the present system of assay reporting provides sufficient additional bullion to cover normal processing losses. We do not feel that anyone expects the Assayer to provide as much as 2,250 fine ounces of gold, which would have been required to overcome the Refinery disaster of 1955.

We shall be very glad to submit more information on the above at any time. There is no question in our minds that the values in this Mint are recoverable by efficient Refinery operation.

Richard L Merrill
Marshall M Reddish

BBn

Buddeight
of grains
selected
judges
Not
Computel
grainess
conduct
per record

JULY 1957	12954	612	79289
AUG 1957	7147	7474	53407
SEPT 1957	7994	6134	45356
OCT 1957	5853	581	34009
NOV 1957	6257	4924	31312
DEC 1957	4491	4874	22864
JAN 1958	11404	571.8	65215
FEBR 1958	4649	440	20458
MAR 1958	3484	552.9	19242
APRIL 1958	2157	566.3	12216
MAY 1958	5735	365.3	20954
JUNE 1958	2191	425.4	9318
Totals	74016		41345

FINE OUNCES
OF GOLD
AFTER MELTING

After melting

SORTY ONE	TOTAL	LOSS IN MELTING GR. OZS.	ASSAY FINENESS GOLD	MONTHLY GRAIN. BAR	ASSAY SAMPLE	TOTAL
95	11163 ✓	517 ✓	481	52962	457	53419
34	8589	249 ✓	611 1/2	52179	208	52387
82	10986	342 ✓	407	44253	334	44587
31	8860	226 ✓	346 3/4	30257	107	30364
82	11002	206 ✓	284	30947	233	31180
34	7714	206 ✓	272 3/4	20881	93	20974
63	11608	328 ✓	462 1/2	53224	291	53515
62	12140	207 ✓	281 1/2	33999	175	34174
72	15703	79 ✓	217 1/2	33964	157	34121
81	12113	105 ✓	314 3/4	37848	255	38103
47	7837	30 ✓	361 1/2	28160	170	28330
27	2288	04 ✓	447 1/2	10117	121	10238
710 "	1,200 03 "	2497 "		428791 "	2601	431392

Gross weight before melting.

Regular Gold "K" Total
grains coin grains weight

Gross weight
ASSAY N° Grains
BAR

11625	55	-	11680 ✓	#1	11011
8838	-	-	8898	#2	8533
7457	37	3834	11328	#3	10873
6086	-	3000 Ⓛ	9086	#4	8726
6477	69	4668	11208	#5	10897
4770	60	3090	7920	#6	7656
11936	-	-	11936	#7	11508
4811 Ⓛ	36	7500 Ⓛ	12347	#8	12078
3331	868	11581	15780	#9	15616
2113	-	10105	12218	#10	12025
5875	112	1880	7867	#11	7790
2292	-	-	2292	#12	2261
75611 ~	1231 ~	45658 ~	1,225.00 ~		1,189.74

$$\begin{aligned} & 1225.00 \\ & - 740.16 \\ & \hline 484.84 \end{aligned}$$

October 31, 1958

MEMORANDUM

TO : Mrs. Alma K. Schneider
Superintendent

FROM : Marshall M. Reddish
Assistant Superintendent

SUBJECT : "Origin and Effect of Legal Provisions Governing Payments
and Charges to Depositors in Operative Wastages"

During the course of the recorded conference with Mr. Tate's committee during the week of September 29, Mr. Tate stated several times that the Bureau would be glad to consider any comments I might have with respect to the legal basis of the new assay policy. You have told me that he repeated this to you, saying again that he would like to have my ideas. I shall therefore comment on the Bureau's statement sent to us at the time of the announcement of new policy. The statement is entitled Origin and Effect of Legal Provisions Governing Payments and Charges to Depositors and Operative Wastages.

May I first point out that the Bureau's synopsis deals with mixed questions of law and metallurgy. A lawyer alone or a metallurgist or chemist alone should not attempt either to compose such a synopsis or to comment authoritatively upon it. It was with this viewpoint, therefore, that Messrs. Merrill, La Follette, Judge and I have studied this synopsis and gathered together to discuss it.

1. The Bureau's synopsis begins by partial quotations from Sections 15, 19 and 23 of the Act of 1837 with respect to the receiving and payment for bullion deposits. The comment is made that in 1837 it was comparatively simple to process deposits since they needed to have only copper added to make them fit for use in coining.

(At this point it should be noted that there is nothing in the Act of 1837 which requires that the Assayer shall foresee a loss of metal in some future refining operation. Neither is there any reference to any regulation issued under the 1837 Act which imposed such a responsibility upon the Assayer.)

2. It is further recited that shortly before 1870 a new type of deposit containing base metal began to be delivered to the Mints. It appears that a wastage of silver in excess of the legal tolerance occurred at the Philadelphia Mint in 1872, as the result of which a committee was appointed to investigate the cause. The synopsis quotes from several places in this committee's report and it appears that their finding was that the wastage of underlying silver was due to the base bullion being received.

The committee stated that the base bullion was "difficult to manipulate during deposit melting and assay," that it "embarrassed" the accuracy of the assay and that the amount of fine metal indicated by the assay could not actually be obtained from the base bullion without wastage.

(It is our [redacted] opinion that the difficulty being experienced at Philadelphia was in melting; that trouble was being experienced in producing homogeneous bars and obtaining concordant assays. We know that melting has improved during the last 86 years and that our deposit melting room produces homogeneous bars from which concordant assays are made. We will agree that if the melting process in 1872 failed to produce good homogeneous bars that the assay was "embarrassed" and that a question arises as to whether more or less gold could be recovered than the amount for which payment was made.)

3. The 1872 committee pointed out that the New York Assay Office employed a more efficient melting procedure than the one at Philadelphia. They said that the procedure at New York was so good that a partial, if not complete, refining was performed during the melting process. The committee makes the point that the processing wastage during this deposit melting "refining" caused the "refining" loss to fall on the depositor.

(It is our Denver legal-scientific opinion that the New York procedure "beneficiated" the bullion in such a way that more exact assaying could be done. We doubt very much whether New York carried their deposit melting process to the point that all base metals were removed. It is our opinion that New York had developed an efficient deposit melting process along the lines that have been employed at this Mint for many years. It is our further belief that our deposit melting process does not result in any appreciable loss to the depositor.

We should like also to point out that the wastage referred to by the 1872 committee at this point is that which occurs during a good melting operation upon the receipt of the deposit and not a speculative wastage during some later refining procedure.)

4. At this point the synopsis drops temporarily the matter of assaying and moves over into the field of weighing. They point out that New York and Philadelphia do not agree as to whether deductions should be made from the weight of depositors.

(The synopsis does not show whether regulations issued under the 1837 Act authorized weight deductions.)

5. The synopsis now comes to the recommendations of the 1872 Philadelphia committee upon which it is said the Act of 1873 is based. These recommendations were:

- (a) That the Melter and Refiner supervise and direct the mode of melting deposits with a view to eliminating substances which might cause "undue" loss.
- (b) That the Melter and Refiner be empowered to require assays and reports on the nature and quantity of "foreign matters."

(It is extremely important that we analyze the recommendations of this commission since the synopsis maintains that the Act of 1873 was based upon these recommendations and that it is the Act of 1873 which now requires that the Assayer foresee future refining losses and reduce the assay to depositors in contemplation of such losses.

Certainly it is not necessary to labor the point that these recommendations of the commission do not place any such responsibility upon the Assayer and it is difficult to see how they can be so construed.)

6. Section 22 of the Act of February 12, 1873, is then quoted in part as follows: "That when the bullion is in such a state as to require melting or the removal of base metals BEFORE its value can be ascertained, the weight after such operation shall be considered as the true weight of the bullion deposited. The fitness of the bullion to be received shall be determined by the Assayer, and the mode of melting by the Melter and Refiner."

(This section does not say that the Assayer nor anyone else shall foresee losses in a FUTURE operation. It says, in effect:

(a) If the value of a deposit cannot be ascertained without melting, then it shall be melted and the after-melting weight recorded as the true weight.

(b) That if base metals must be removed from a deposit before its value can be ascertained, that the base metal shall be removed and the weight after such removal shall be the true weight of the bullion deposited.)

7. The synopsis also says, "The final wording of the section is obviously the result of the investigations made by Messrs. Linderman (the 1872 committee) and Rogers/since it embodies their recommendations."

(Since the 1872 committee made no recommendation that any burden of foreseeing future refinery losses be placed on the Assayer, it is not surprising that the Act itself says only that the "fitness of the bullion to be received shall be determined by the Assayer.")

8. The synopsis then quotes from a letter of the Secretary of the Treasury of February 26, 1873, wherein it was recommended that the deposit melting process should be sufficiently extensive as to eliminate base metals so as to avoid loss in refining since the cost of bringing bullion to standard condition was supposed to be collected from the depositor by deduction from payment to him.

(Again, there is no statement or implication that the Assayer must foresee some future refinery loss and reduce his assay to the depositor in contemplation thereof. Only a deposit melting operation is under consideration so far.)

9. The synopsis quotes Section 25, which provides for charges to be collected from the depositor for converting standard bullion into coin, for melting and refining, for separating the gold

and silver, etc., and that these charges shall cover the cost, not only of material, labor and use of machinery, but also WASTAGE. No

10. The synopsis then tells us that the operations required to bring bullion to standard condition were those of parting, alloying and casting and that the Secretary of the Treasury, in his letter of 1873, was declaring that wastages from such operations were to be collected in charges from the depositor.

(It is fair to note that the ~~provision~~ for collecting charges sufficient to cover wastage apparently applied to all of the operations referred to in Section 25, including melting and REFINING.)

11. The synopsis then states that under the 1837 Act the refining wastage was born by the depositor and that the Melting and Refining wastage covered only that which occurred in parting, alloying and making coin bars.

(As pointed out previously, the refining wastage under discussion between the Acts of 1837 and 1873 was not that which would occur in some future refining process, but it was that which was suffered as a result of a good deposit melting operation. It should be kept in mind that what was being discussed at this point ~~in~~ the previous one was an ingot melting process.)

12. It is argued in the synopsis that since the legal limit of wastage was reduced in the Treasury bill presented to Congress in 1870, that this would not have been requested if it had been necessary to provide in the legal allowance for a wastage through refining.

(The wastage in "refining" which was under discussion at that time was the wastage which should take place during the operations in the deposit melting room.)

13. The synopsis then refers to the 1874 Mint Regulations, which provided for weight deductions setting forth specific percentages for various types of bullion and also authorizing the Melter and Refiner to make "just and proper deductions on base gold bullion," the object of these regulations being "to protect the Government against the loss which it would sustain by crediting the depositor with the full weight of gold and silver bullion containing base metals other than copper."

(It should be noted that the deductions authorized were merely deductions from weight.)

14. The synopsis continues as follows: "These deductions were undoubtedly authorized as a practical matter instead of fire refining in the deposit melting room.".

(No authority whatsoever is cited for the statement that these WEIGHT deductions were authorized to protect against a later refining process or indicating in what manner the deposit melting operations were being reduced. The statement stands baldly as an expression of opinion. Even here, however, the deduction discussed is not a deduction to be made by the Assayer, apparently based upon the opinion just expressed.)

15. In the synopsis the following conclusion is stated: "The history of Section 22 of the 1873 Act establishes clearly that the wastage allowance of the refiner, which was reduced by the same Act below that of the 1837 Act, was not intended to cover losses incurred because of the impurities contained in low grade bullion, but only the ordinary wastage incurred in processing previously refined unparted bullion, through the operations of parting, alloying, and making of coin bars." The synopsis further states that

this was the interpretation of the 1873 Act made at that time by persons responsible for drafting the Act itself.

(Again there has been nothing in the regulations nor any quotations from the people responsible for drafting the Act which placed the responsibility upon the Assayer to foresee losses in some future refinery operation. There is no reference to any "refining" wastage with the exception of that which might occur in the deposit melting room and the opinion expressed in the synopsis discussed under Point 14 above.

16. The synopsis quotes from the Director's report of 1880 with respect to an unusual wastage at the San Francisco Mint which, it was said, was due to the fact that deductions had not been made from the weight of deposits, and then directing that deductions should be made.

(Note that the reference is to a deduction from the weight of deposits and not from the assay.)

17. The synopsis then quotes from the Director's report of 1881, expressing the opinion that the wastage could be in part accounted for by the loss of gold in removing base metals from unrefined bullion. The 1881 report further stated that the extent to which this cause produced the wastage at the Mint was under consideration, but that sufficient information had not yet been obtained to reach a decision.

(There is no indication in the synopsis that such information was ever obtained.)

18. The synopsis also refers to the Director's report of 1885 in which it was explained that a surplus of bullion at San Francisco

resulted from making deductions from base deposits and that San Francisco, in addition to making specified deductions, also permitted the Melter and Refiner to make deductions "after the Assayer has reported the base metal contained."

(The authority given to the Melter and Refiner presumably was that of reducing the after-melting weight of the deposit. At any rate, the Assayer did not make the deduction.)

19. The synopsis states that Director Kimball, in 1887, took exception to the deductions being made on deposits and stated that the law provided the legal allowance for wastage.

20. The synopsis argues that Mr. Kimball was wrong and must have been dissuaded from his position since the 1888 Mint regulations continued the provision for deductions and, it is said, also provided for deduction for "unavoidable loss in the removal of base metal."

(These deductions were still WEIGHT deductions. It is interesting to note that these weight deductions were resulting in sizeable gains at the San Francisco Mint. The ~~propriety of~~ an arbitrary deduction from a depositor in order to provide surpluses is certainly nowhere required as a matter of law, and its propriety is open to question.)

21. The synopsis recites the fact that the 1908 Mint regulations placed strict limitations upon the making of deductions in weights. (The last authorization for deduction in weight were stricken from the regulations in the 1947 edition.)

22. The synopsis refers to a revision in the table of charges of March 1, 1908, which provided for an extra charge ~~for~~ if a satisfactory assay could not be obtained without remelting and

~~treating~~ retreating, and it is pointed out that any loss of metals due to this additional treatment was born by the depositor. The pertinence of this statement is not clear to us. It is certainly a known fact that gold which is lost to the depositor during the deposit melting process is recovered by the Mint. Surely it is not thought that the remelting of a deposit constitutes "refining" in the modern sense.)

23. The synopsis refers to a provision in the 1910 table of charges which provides for an additional charge where certain metals prevent a satisfactory assay and make it necessary to remelt and retreat the deposit.

(The same comment as under No. 22 would seem to apply.)

24. The synopsis points out that a provision in the 1915 table of charges provided for the remelting and retreatment of material which failed to give concordant assays.

(Same comment as under No. 22 above.)

25. The synopsis states that the last remaining provision for weight deductions was removed from the Mint regulations in 1947, based upon experience.

It is believed that this fact was lost sight of until just recently inasmuch as there have been many suggestions that deductions in weights be made on deposits since our large refinery loss in 1955. Presumably there will be no further urging for the continuance or resumption of this practice.)

26. The synopsis states the following conclusion: "The Assayers, in reporting their assays on materials which would show a loss in refining, make compensation through the exercise of their judgment."

(In our opinion, which we hold respectfully, this is a conclusion for which no authority is cited.)

27. The synopsis then deals with a Congressional hearing in 1911 during which the Director of the Mint explained that the Assayer in charge of one of the small assay offices had to purchase bullion in a such a way that he would not be "short in his accounts."

(Surely, no one is suggesting that the Assayer at the small assay office was attempting to foresee a possible refinery loss at some United States Mint to which he would send the bullion he purchased. Is it not clear that ~~this~~ he was interested only in delivering to the Mint as much gold as he paid for?)

28. Several pages of the synopsis are then devoted to a discussion of the effect of changing the status of the Melter and Refiner from that of a Presidential Appointee to that of a Civil Service official.

(We are not clear as to the purpose of raising and discussing this point.)

29. After this discussion in the synopsis the following conclusion is stated: "The judgment of the Assayer, in determining that over-payment was not made to the depositor, superseded the prior formal allowances for deductions."

(Nothing is cited as authority for this statement.)

30. The synopsis has this as its summary conclusion: "In conclusion it is submitted that the laws intended to and do provide that the necessary wastage of precious metal incurred in refining a deposit be borne by the depositor at the time of and in connection with

the evaluation of the deposit for payment. The Assayer must exercise judgment in evaluating determinations made on deposit samples prior to establishing the assay figure to be reported as the basis for payment, so as to insure that no refining loss shall subsequently be borne by the government. In other words, the Assayer shall not report more gold or silver than can be recovered in the form of fine or coin bars; to do so would result in overpayment to the depositor and loss to the government.

"The basic responsibility rests upon the superintendent and the Assayer of the institution. To paraphrase the words of Director Roberts, 'The particular object of the head of the institution is to see that the Government does not get short in its accounts. He does not want to take advantage of the producer, and all that he desires is to avoid being short in his accounts.'"

(It is respectfully submitted that no authority is cited either in the regulations or by statement of any responsible official

SH & DEPOSITS DIVISION

Homestake

RE-WEIGHINGS - Fine Bars produced in Deposit Melt Room - Oct. 1958
by Bureau representatives

Year	Melt No.	Book Weights	Scale Weights	Gains per inches
1958	669	1,964.66	1,964.73	.07
	670	7,121.32	7,121.43	.11
	671	4,738.00	4,738.05	.05
	672	2,741.29	2,741.34	.05
	673	4,293.59	4,293.63	.04
1957	616	2,818.81	2,818.86	.05
	617	3,143.55	3,143.62	.07
	618	2,721.88	2,721.93	.05
	619	3,203.84	3,203.90	.06
1956	570	3,924.66	3,924.72	.06
	569 (569)	3,549.89	3,549.94	.05
	568	2,382.49	2,382.53	.04
	567	3,540.26	3,540.34	.08
	574	3,162.94	3,162.98	.04
1956	573	1,192.76	1,192.78	.02
	572	3,882.56	3,882.64	.08
	571	1,972.53	1,972.56	.03
	570	2,752.84	2,752.88	.04
1955	569	5,046.22	5,046.29	.07
	568	3,204.50	3,204.56	.06
	567	2,701.20	2,702.23	.03
	574	2,328.90	2,328.93	.03
1955	573	382.01	382.01	.00
	572	1,196.70	1,196.71	.01
	571	1,947.85	1,947.88	.03
	705	3,174.15	3,174.23	.08
1955	705	2,414.98	2,415.02	.04
	707	2,734.83	2,734.89	.06
	708	2,397.95	2,398.00	.05
	709	1,546.41	1,546.42	.01
	710	1,975.37	1,975.43	.06
	711	1,564.50	1,564.54	.04
	712	1,951.50	1,951.55	.05
	601	3,515.75	3,515.78	.03
1958	602	3,528.48	3,528.53	.05
	603	2,298.26	2,298.30	.04
	604	2,693.97	2,693.98	.01

37 melts

.01 for each 1000 g = 1.06 3
 Plus 2 or 3 sub melt $\frac{.74}{74}$
 Should have gain of $\frac{1.80}{1.80} 3$

106.713.14 1.75
 Of the swing on the 37
 melts average (only 5)
 Yr hundredth (.085%) $\frac{18}{1.93}$

CASH & DEPOSITS DIVISION

October 1958

Check Weighings by Bureau representatives of Deposit Bars:

(1957)

From O-8

Deposit No.	Assay No.	Book Weight	Scale Weight	Gain or Loss	Remarks:
	9	6.47	6.48	+ .01	
	563	94.11	94.08 .13	- .03 + .10 - - -	Env. with Grains
	954	88.95	88.91 .05	- .04 + .01 - - -	Env. with similar material.
	969	137.41	137.40-plus swing .06	(.01) + .05 - - -	Env. with grains
	708	309.36	309.35 .06	(.01) + .05 - - -	Env. with Grains
	242-1 -2	652.83 616.78	652.84 616.79	+ .01 + .01	
	243	790.60	790.60-plus swing		
	245	741.91	741.92	+ .01	
	246	362.13	362.14	+ .01	
	251	134.82	134.82-plus swing		
	253	105.04	105.04-plus swing		
	260	128.72	128.73	+ .01	
	265	750.58	750.60	+ .02	
	266	723.10	723.11-plus swing	+ .01	
	267	270.09	270.09-plus swing		
	268	284.80	284.82	+ .02	
	269	596.81	296.82-plus : .01 swing		

No assay samples taken

W.W.R
Cash and Deposits Division

EX. Nov. 3, 1958

Reweighings of deposit bars to M&R Production F.Year 1959

Dep. No.	Assay No.	Book Wt.	Scale Wt.	Gain or Loss	Addition in Envelopes	Remarks
127	134	.94	.95	+ .01		
156	164	415.46	415.47	+ .01	- - - - Env. containing .95 oz. of misc. material with bar.	
159	167	1.09	1.10	+ .01		
161	169	3.06	3.07	+ .01		
163	171	.90	.91	+ .01		
180	189	1,317.70	615.37 702.31 <u>1,317.68</u>		- .02 Envelope with bar with .06 oz. material	
224	235	1,112.82	540.95 571.87 <u>1,112.82</u>	-	- Env. with .02 material with bar.	
240	252	136.54	136.51		- .03 Env. with .09 material with bar.	
295	310	604.17	604.16		- .01 Envl with .04 oz. with bar (This consisted of cut piece of high grade material.)	
315	330	407.20	407.19		- .01 Env. with .04 oz. with bar, con- sisting of ball of fine gold grain	
322	338	1,218.87	599.88 618.97 <u>1,218.85</u>		- .02 Env. with .09 misc. pes. with bar.	
326	343	2.41	2.42	+ .01		

NOVEMBER 4, 1958

BARS REMOVED FROM VAULT "O" COMPARTMENT 8, FOR WEIGHING AND
ASSAYING BY WASHINGTON COMMITTEE

GRAINS BARS 1957

#1	110.11	± .02	Sample for Assay	.47
#2	85.33	± .01	" "	.35
#824	489.97	.00	2 env.	
#893(2)	465.81	.00	" "	
#893(1)	327.57	± .01		

SINGLE DEPOSITS 1957

#190	26.97	± .01	2 env.
#459	283.45	.00	
#460	649.99	± .07	
#476	609.14	.00	
#477	614.55	± .02	
#482	536.70	± .01	
<hr/>			
Total 11 Bars.		± .15	

NOVEMBER 4, 1958

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#459	283.45	.00	
#460	649.99	≠ .07	
#476	609.14	.00	
#477	614.55	≠ .02	
#482	536.70	≠ .01	

Total 11 Bars. ≠ .15

in 1957

- 110.11 +.02

Gl 4071
4054
Vault 08

2 85.33 +.01

- 824 489.97 -2 em. 00

- 893-2-445.81 2 em 00

- 893-1-327.57 +01

fin. Deps 57

- 1.90 26.97 2 em +01

- 459. 283.45 00

- 440. 649.99 +07

- 476. 609.14 00

- 477. 614.55 +02

- 482. 536.70 +01

Nov. 4, 1958

Re-weighings by Bureau representatives:

GRAINS BARS: - 1959

Bar No.	Book Weights	Scale Weights	Gains
1	110.11	110.13	+ .02
2	85.33	85.34	+ .01

Re-weighings of Deposit Bars: (1957)

Dep. #	Assay #	Book Weight	Scale Weight	Gains
	824	489.97	489.97	0 (Swing)
	460	649.99	650.06	+ .07
	476	609.14	609.14	0 (Swing)
	428xx	5536.53xx	5536.53xx	
	477	614.55	614.57	+ .02
	482	536.70	536.71	+ .01
	893-1	327.57	327.58	+ .01
	" -2	465.81	465.81	0 (Swing) } 2 envelopes
	190	26.97	26.98	+ .01
	459	283.45	283.45	+ .00½

November, 6, 1958

Honorable Wm. M. Brett
Director of the Mint
Washington, D. C.

Dear Mr. Brett

This letter is in reply to your
letter of September 23, 1958; telegram of October
5, 1958 and telephone request of November 3.

The Assayer at Denver is capable of making
and reporting such assays in accordance with
the Rules and Regulations of the Mint Service
and any regulatory Policy of the Director.

Very truly yours

Richard L. Merrill



TREASURY DEPARTMENT
UNITED STATES MINT SERVICE
DENVER, 2, COLO.

THE SUPERINTENDENT
UNITED STATES MINT

November 6, 1958

Mr. W. H. Brett
Director of the Mint
Treasury Department
Washington 25, D. C.

Dear Mr. Brett:

In response to your telephone request of November 3, I am replying to your letter to Mr. Merrill of September 23, 1958 and the attached "Origin and Effect of Legal Provisions, etc."

It has been fully studied and analyzed and is understood. In discussing the matter with Mr. Merrill, I believe that he thoroughly understands your statements. I am sure he is completely capable technically of carrying out your policy. I am sure you can depend upon him always to exercise whatever judgement is permitted to him under the law and regulations to fully protect the government in the performance of his work.

Sincerely,

Superintendent

November 6, 1958

MEMORANDUM

Not Sent

TO : Mrs. Alma K. Schneider, Superintendent
FROM : Marshall M. Reddish, Assistant Superintendent
SUBJECT : The New Statement of Assay Policy of the Director of the Mint

This memorandum is respectfully submitted in response to a request by the Director and Assistant Director of the Mint in Washington that I submit my views on the new statement of assay policy recently issued by the Director of the Mint. I should first like to review the situation:

Mr. Frederick Tate, the Chairman of the Bureau committee at the Denver Mint, presented to the Superintendent and the Assayer a copy of the Bureau wire to him of October 3, 1958, requesting him to obtain certain information while at Denver with respect to the new policy of the Bureau of the Mint which requires that assays on deposits be adjusted downward.

Mr. Tate handed a written memorandum the same day to the Superintendent and the Assayer and requested a reply to the following two questions:

1. Do Denver officials understand this statement and the principle that a proper assay will primarily protect the Government's interest while still providing a fair return to the depositor?
2. If so, is the Assayer capable of making and reporting such assay?

Denver Mint officials were astonished to receive this communication from Mr. Tate since during the course of a conference the four days previous Mr. Tate and Mr. Neisser had agreed that further information would have to be supplied to the Denver Mint before the new assay policy could be put into effect. Further, Denver Mint officials were then relying upon a letter from the Director of the Mint of September 25, which promised that samples of various kinds of deposits would be sent to the Denver Mint from the New York Assay Office. Assay reports were also to be sent with the samples so that the New York procedures in carrying out the Director's assay policy might be used as guidelines. The following is quoted from the Director's letter:

"The first sentence (referring to Denver's telegram) asks for samples from New York. These will be forwarded to you as early as possible so that your assay department can use them as guidelines...." "The last sentence of your telegram indicates that we would not give you something and, therefore, you present an argument that you are entitled to it. We are not holding back any information from you. We are very anxious to have this problem resolved."

It is now the understanding of Denver Mint officials, after telephone conversations with the Director and Assistant Director of the Mint in Washington, that the Bureau has decided not to send the samples from New York or to furnish the information for use as guidelines. The officials of the Denver Mint are faced with a dilemma.

First of all, they believe that the present assay procedures at the Denver Mint carry out the intent of the Director's policy in that they protect the Government against any future refinery loss, provided that the refining operation is conducted efficiently and no theft occurs. It is their belief that a new, arbitrary deduction made from deposits would defraud depositors by adding to normal refinery surpluses.

Second, Denver officials recognize and respect the authority of the Director of the Mint and it was with an effort to gain information from which the Bureau's new statement of assay policy could be carried out that the information was requested as to New York procedures. Since such information is not forthcoming, we shall have to proceed alone to build up the necessary scientific information so that the policy may be carried out. The most specific answer which Denver Mint officials can now give in response to the questions submitted by Mr. Tate are:

That Denver officials do understand the policy and agree completely that the Government should be protected. They question the legal basis of the policy and whether sufficient information exists to carry it out, but will carry it out as the necessary information can be obtained to enable them to do so.

Denver Mint officials further believe that the Assayer is capable of making and reporting assays according to this policy or any other policy announced by the Bureau, as well as any other Assayer.

Having indicated above that we question the legal theory on which the new assay policy is based, it is only fair that we submit our reasons for questioning it. I hope shortly to prepare a memorandum

on the subject giving our viewpoint.

Since the Superintendent of the Mint is under a heavy bond and carries personal responsibility for all of the values in the Mint, it is believed that the Superintendent should have official, legal advice upon the following points:

1. Since the new statement of assay policy places the legal responsibility upon the Assayer to prevent the refinery losses, is the Superintendent to be deprived in the future of the traditional protection afforded her through the statute providing a legal allowance for wastage? Certainly this protection should not be lost. It protected the Superintendent during the 1955 refinery loss and during all of the refinery losses which have occurred in the Mint Service.
2. Is the Assayer to be held responsible for losses occurring through inefficient operation of the refinery, undisclosed theft or any of the other reasons given to and accepted by the Settlement Committee and the General Accounting Office following the Denver refinery loss of 1955?
3. What financial responsibility, if any, does the Assayer now assume by reason of his legal responsibility to prevent refinery losses?

To conclude, May I repeat that the Denver Mint officials respect the authority of the Director of the Mint and will do their best to carry out all of his policies. They will appreciate any help which can be given them by the Bureau of the Mint.

As stated above, this memorandum is respectfully submitted in compliance with the specific request of the Director and Assistant Director of the Mint in Washington.

Assistant Superintendent

November 6, 1958

Honorable Fred M. Vinson
Director of the Mint
Washington, D. C.

Dear Mr. Director:

This letter is in reply to your
letter of September 2nd, 1958; telegram of October
2, 1958 and telephone message of November 3rd.

The Attorney of Denver is capable of seeking
and reporting such message in accordance with
the Rules and Regulations of the Mine Surveyor
and may communicate fully of the Mine Surveyor.

Very truly yours

Richard L. Merrill

November 7, 1958

MEMORANDUM

TO : Mrs. Alma K. Schneider
Superintendent

FROM : Marshall M. Reddish
Assistant Superintendent

SUBJECT : The New Statement of Assay Policy
of the Director of the Mint

This memorandum is respectfully submitted in response to a request during a recent long distance telephone conversation by the Director and Assistant Director of the Mint in Washington that I submit my views on the new statement of assay policy recently issued by the Director of the Mint.

After reviewing the letters from this office to the Director, including memoranda prepared by Mr. Merrill and me, and also the views expressed at the time the conference with Mr. Tate's committee was recorded, etc., it appears that there is little that I can add personally.

During the course of the conference Mr. Tate invited me to submit my views with respect to the legal theory upon which the new statement of policy is based. Since he reiterated the statement to me and told you also several times that he would like to have my views in this regard, I feel that I would not be completely cooperative if I did not submit them. I hope to be able to do this.

As stated above, this memorandum is respectfully submitted in compliance with the request of the Director and Assistant Director of the Mint in Washington.

Assistant Superintendent

November 7, 1958

Director of the Mint
Washington 25, D. C.

Dear Sir:

Attached is a memorandum to me prepared by Mr. Reddish with respect to your new statement of assay policy. This is the statement that you and the Assistant Director requested him to prepare during the course of a recent long distance telephone conversation with you.

Very truly yours,

Superintendent

November 7, 1958

MEMORANDUM

TO : Mrs. Alma K. Schneider
Superintendent

FROM : Marshall M. Reddish
Assistant Superintendent

SUBJECT : The New Statement of Assay Policy
of the Director of the Mint

This memorandum is respectfully submitted in response to a request during a recent long distance telephone conversation by the Director and Assistant Director of the Mint in Washington that I submit my views on the new statement of assay policy recently issued by the Director of the Mint.

After reviewing the letters from this office to the Director, including memoranda prepared by Mr. Merrill and me, and also the views expressed at the time the conference with Mr. Tate's committee was recorded, etc., it appears that there is little that I can add personally.

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As stated above, this memorandum is respectfully submitted in compliance with the request of the Director and Assistant Director of the Mint in Washington.

Assistant Superintendent



TREASURY DEPARTMENT
UNITED STATES MINT SERVICE
DENVER, 2. COLO.

OFFICE OF SUPERINTENDENT
UNITED STATES MINT

November 12, 1958

Director of the Mint
Washington 25,
D. C.

Dear Sir:

Value of gold holdings as of August 31, 1958 requested in your letter of September 25, 1958 is as follows:

1. Fine Gold (995 plus)	\$ 3,637,289,718.91
2. Gold Coin Bars (895-916)	1,960,245,305.77
3. Unparted Bullion	353,347,779.60
4. Other Gold:	
(a) Unrefined bars (896-994)	28,517,978.24
(b) Fine Deposits (under 995)	5,050,558.52
(c) Gold in "D" SilverBars	<u>1,779.26</u>
Total	\$ 5,984,453,120.30

Bullion Account Current Balance August 31, 1958:

Less advances	\$ 5,984,786,120.30
	333,000.00
	<u>\$ 5,984,453,120.30</u>

Very truly yours,

Acting Superintendent

M M R

CASH & DEPOSITS DIVISION

11/12/58

Envelopes with bars, supplementing weight of bars with
misc. grains because bars light on weighing to M & R.

Figures as to number of envelopes supplied by Mr. Tate
from M & R records:

F. Year	1951	- - 1
	1952	- - 9
	1953	- - 1
	1954	- 16
	1955	- 13
	1956	- 12
	1957	- 6
	1958	- 10
	1959	- 6

(Mr. Woodrow states this practice in vogue as far back as
he was in M & R division)

Instructions now issued to Weighers to discontinue practice.
(Neisser states that if the occasion should arise when a
bar should weigh a trifle light, the M & R would have to
take it as it.)

Nov. 12, 1958

Mr. Reddish (Memo.)

From Philippus,

Grains bar for July 1957

Grains from deposits #85 thru 100 and #102 of July deposits were omitted from this bar.

Therefore, the July bar was short due to misreading assay numbers for deposit numbers, since closing number (100) assay number, corresponded to Deposit #84. (August bar should have been over proportionately).

Possibility that omitted grains for July could have been lost, or put, into K-grain material, which was subsequently recovered when K-grains processed.

C O P Y

Red Register
before being copied

ORIGIN AND EFFECT OF LEGAL PROVISIONS COVERING PAYMENTS
AND CHARGES TO DEPOSITORS AND OPERATIVE WASTAGES.

Section 15 of the January 18, 1837 Act provided that when bullion was deposited for coinage it should be weighed by the Treasurer and receipt given ("provided, that when the bullion is in such a state as to require melting before its value can be ascertained, the weight after melting shall be considered as the true weight of the bullion deposited.")

Section 19 of the Act of 1837 provided that from the report of the assayer, and the weight of the bullion, the Treasurer "shall estimate the whole value of each deposit, and also the amount of the charges or deductions if any;"**

Section 23 stated that "the Melter and Refiner shall be debited with the standard weight of all the bullion placed in his hands, that is to say, with the weight of metal of legal standard fineness which it will make**".

At the time of enactment, payment for deposits was made in coin of the same metal as the deposit, that is, gold coins for a gold deposit, silver coins for a silver deposit, and both gold and silver, if both metals were present in the deposit. The Treasurer had "estimated the whole value of the deposit", expressed as "so many gross troy ounces of standard metal", in each case. The Treasurer did not return more precious metal to the depositor than could subsequently be produced in the form of "good coin bars" from the deposit, in subsequent Mint operations thereon. In 1837, it was comparatively simple to "estimate the whole value of each deposit", since most of the bullion being then deposited was in the form of foreign gold coin, the remainder containing, for the most part, good copper base only.

2. However, shortly before 1870, base bullion, derived chiefly from the region then commonly known as "the base metal region of Nevada" and later from Utah, began to be delivered to the mints. During the years between 1870 and 1872 the amount of this base bullion vastly increased.

Settlement of the accounts of the Melter and Refiner at Philadelphia in the Spring of 1872 showed a waste of silver in excess of that tolerated by law. Secretary of the Treasury Boutwell appointed Dr. H. R. Linderman, a former Director of the Philadelphia Mint, and soon to become the first Director of the Mint after the establishment of the Bureau, and Professor Robert E. Rogers as a Committee to investigate the cause.

Their report, dated July 25, 1872, and printed, pointed out in the first place, that the wastage was not due to dishonesty or incapacity or defectiveness in the processes employed, but that it had been caused by the

Forthell

condition of the metals used. They conducted extended experimental tests and an examination into the system of accounting to the depositor and between the Mint at Philadelphia and the Assay Office at New York, as well as the usage at each place in the matter of allowance deductions in the different weighings of bullion. The Committee stated that the base bullion being received was difficult to manipulate, that this was manifested in the deposit melting and in the assay department, "embarrassing the accuracy of the assay***." They established that at Philadelphia the first operation was simply to melt the deposit for the purpose of rendering it homogeneous in order that the granulation taken for assay might represent the average fineness. Very little purification of the base bullion was accomplished and consequently the Melter and Refiner necessarily received the bullion with a large proportion of its impurities. "To suppose that the amount of fine metal indicated by the assay represents the amount which the Melter and Refiner can actually obtain from it without wastage is an error; this we have conclusively determined." They stated that because of the impurities in this bullion a greater wastage must of necessity be incurred by the Melter and Refiner than before the period when this class of bullion came to be operated on.

foreign coin didn't require processing

However, "at the New York Assay Office the Melter and Refiner of that office, acting as the operative officer of the Treasurer in the deposit melting-room, subjects the same kind of base bullion to which we have alluded to a more severe ordeal, for the elimination of base metals, than the simple melting with a protective covering of charcoal, as is done in the deposit melting room at the Philadelphia Mint. As a consequence, the bars transferred from that office to the Treasurer of the Mint, and by that officer to the Melter and Refiner, are purer than those which are turned out from the deposit melting-room of the Mint; the former being for the most part regarded as in suitable condition for transmission to the Mint, only requiring the proper amount of fine silver to be added to bring them to the standard for coinage.

"It is thus seen that at the New York Assay Office, a partial, if not complete, refining is performed upon a portion of the base bullion before it is credited to the depositor and charged to the Melter and Refiner of that office. The wastage accordingly falls on the depositor and not on the Melter and Refiner, whereas, at the Philadelphia Mint so small an amount of the impurities are removed in the deposit melting-room, that the wastage falls little upon the depositor, and principally upon the Melter and Refiner."

They pointed out that great care appeared to have been taken at the Assay Office in weighing parcels of bullion to prevent the Melter and Refiner being charged with anything but the actual bullion. For this purpose deductions were made which the commission considered quite necessary and proper. They said, however, that this practice did not appear to have been observed at Philadelphia, the Treasurer of that institution regarding Section 15 of the 1837 Act as requiring him to credit the depositor with

the actual weight of the bullion after the deposit melt.

One of the recommendations of the commission was that the Melter and Refiner should supervise and direct the mode of melting deposits in the deposit melting room with a view to the elimination of such substance as might cause undue loss, as well as deteriorate the quality of the resulting bullion, and that he should be empowered to require assays and reports on the nature and approximate quantities of foreign matters.

The Mint bill, which was to become the Act of February 12, 1873, was then before the Congress. It had been compiled in the Treasury Department, largely by John Jay Knox, Deputy Comptroller of the Treasury, with voluminous correspondence and consultations with Mint officials, past and present, and all other persons known to be conversant with the processes of coinage. The proposed bill had been transmitted on the 25th of April, 1870 by the Secretary of the Treasury to the Senate of the United States, and contained as Section 22 the identical provisions of Section 15 of the 1837 Act. However, on February 3, 1872, the Secretary of the Treasury had recommended to the Committee on Coinage that an amendment be made by striking out all after "provided" and inserting "That the fitness of the bullion to be received, and the mode of melting previous to assay shall be subject to the decision of the Melter and Refiner or Assayer."

This section, as enacted in 1873, contained the following proviso, "that when the bullion is in such a state as to require melting, or the removal of base metals, before its value can be ascertained, the weight, after such operation, shall be considered as the true weight of the bullion deposited. The fitness of the bullion to be received shall be determined by the assayer, and the mode of melting by the melter and refiner."

On April 9, 1872, Mr. Hooper of Massachusetts, in discussing the bill in the Congress had stated in regard to this section, "It provides that the fitness of the bullion to be received shall be determined by the Assayer, and the mode of melting by the melter and refiner. ***These provisions seem necessary for the protection of the government."

The final wording of the section is obviously the result of the investigations made by Messrs. Linderman and Rogers since it embodies their recommendations.

In a letter dated February 26, 1873, (two weeks after the passage of the 1873 Act), to the Director of the Mint at Philadelphia, the Secretary of the Treasury stated:

"It is desirable that the refining of bullion containing base metals of character or proportion rendering it unsuitable to be credited to the depositor without deduction for loss in refining, should be done as far as practicable in connection with deposit melting, and this for the reason

-4-

that the 25th section of the new law requires the ordinary wastage incident to the operation of bringing bullion to standard condition, to be included in the estimate of charges to be paid by the depositor."

9. Section 25, referred to in this letter, provided as follows: "That the charge for converting standard gold bullion into coin shall be one fifth of one per centum; and the charges for converting standard silver into trade-dollars, for melting and refining when bullion is below standard, for toughening when metals are contained in it which render it unfit for coinage, for copper used for alloy when the bullion is above standard, for separating the gold and silver when these metals exist together in the bullion, and for the preparation of bars, shall be fixed, from time to time, by the Director, with the concurrence of the Secretary of the Treasury, so as to equal but not exceed, in their judgment, the actual average cost to each mint and assay office of the material, labor, wastage, and use of machinery employed in each of the cases aforementioned."

10. The operations required to bring good bullion (that containing little base other than copper) to standard condition were:

1. Separating the gold and silver, (by means of acid parting) when these metals existed together in the bullion.
2. Alloying to the standard coinage composition, and casting into coin bars.

The ordinary wastage, to which the Secretary referred in his letter, was the wastage incurred in parting, alloying, and casting into coin bars.

11. The refiner, under the 1837 Act, was charged only with the weight of standard metal which the deposit would make. The refining wastage, therefore, was borne by the depositor, and the M & R wastage covered only that incurred in parting, alloying and making coin bars. Because of technical improvements in those processes, the legal limit of wastage was reduced in the draft bill presented to the Congress in 1870. Had it been the intent of the officials who drafted the bill or the Congress which considered it to include in the Melter and Refiner's wastage allowance losses incurred in refining deposits to remove base metals, a request would certainly have been submitted, after the extent of these losses had been determined by Dr. Linderman and Professor Rogers, that this allowance be increased rather than diminished. Instead the provision contained in the draft was allowed to stand.

13. The 1874 Mint Regulations, in carrying out the provisions of Section 22 of the 1873 Act, provided that the Melter and Refiner should

supervise and direct the mode of melting deposits in the deposit melting room and that the weight after melting and deduction should be that with which the depositor should be credited, and the Melter and Refiner charged, by the Superintendent. The Melter and Refiner was also empowered to call upon the Assayer before and during the operations of melting to make any examinations necessary to determine the gold and silver and the character and approximate quantities of foreign substances associated with them. Weight deductions were allowed as "compensation for unavoidable loss in fitting bullion for deposit". Specific percentages of weight deductions on certain types of bullion were set forth in the regulations. However, in addition, the Melter and Refiner was authorized to make just and proper deductions on base gold bullion. It was stated that the object of these regulations was "to protect the Government against the loss which it would sustain by crediting the depositor with the full weight of gold and silver bullion containing base metals other than copper." These deductions were undoubtedly authorized as a practical matter instead of fire refining in the deposit melting room as suggested by the Secretary since the continuing of fire refining operations in the course of the melting of a deposit, to the extent necessary to produce refined but unparted bullion "suitable for coinage", gave excessively high volatile and slag losses of gold and silver, borne by the depositor. On the other hand, the wastage incurred in operations on such bullion in the refinery was not as large for the reason that these processes largely consisted of acid parting rather than fire refining. This was to the advantage of the depositor.

The history of Section 22 of the 1873 Act establishes clearly that the wastage allowance of the refiner, which was reduced by the same Act below that of the 1837 Act, was not intended to cover losses incurred because of the impurities contained in low grade bullion, but only the ordinary wastage incurred in processing previously refined unparted bullion, through the operations of parting, alloying, and making of coin bars.

The interpretation of the pertinent sections of the 1873 Act, made at the time of its enactment by the persons who had been responsible for the drafting of the Act itself, would seem to be governing. This interpretation was concurred in and followed by succeeding directors.

In the Director's Report for 1880, (P.13) the Director (Horatio C. Burchard) says in regard to the San Francisco Mint: "I made careful inquiry into the unusual wastage of the melter and refiner, and found upon examination of the character of the deposits and a comparison of the fineness of the bullion of the last with the preceding years that the amount of low grade and refractory bullion had largely increased without any deduction having been made from the weight of the deposit for the protection of the government, as authorized by the instructions.

"I directed that hereafter deductions should be made on unusually base deposits of gold or silver sufficient to cover the probable and unavoidable loss on such bullion." The wastage was \$5,258.82 in gold and \$21,706.69 in silver, with a \$16,973.88 loss on sale of sweeps.

17 In the report for 1881, in commenting on wastages at San Francisco which, although far within the legal limits, were heavier than the usual loss, the same Director stated (P.12): "The melter and refiner's wastage at the San Francisco Mint can, in part, be accounted for by greater deposits during the year of brittle, fine gold bars and unrefined gold bullion, containing refractory and volatile base metals, in the elimination of which loss of gold is a frequent, if not a necessary, consequence. How far this cause has operated to produce the wastage of that mint is under consideration; but, as yet, sufficient examination and analysis have not been made of the records and transcripts obtained for a comparison of the character of the deposits and the methods of weighing, assaying, and reporting the fineness of gold bullion, with those of previous years and of other mints and assay offices." This wastage was 40% of the legal limit, \$1,229 in gold and \$2,498 in silver.

18 The 1885 Director's Report (James P. Kimball) contains a report from E. O. Leech, Computer of Bullion in the Director's office (who later became Director) concerning a surplus of bullion at San Francisco which, he stated, arose in part from very careful and economical working of the precious metals and from allowing deductions made from base deposits. He said that in addition to the specified deductions on certain silver deposits "Deductions are also made for his benefit on base gold deposits, not according to any regular schedule but from a personal inspection by the Melter and Refiner of the deposit, after the Assayer has reported the base metal contained." 3/

Weight reduced

19 However, in 1887, Mr. Kimball took exception to the practice of allowing deductions. Director Kimball then felt that the allowances on entries of bullion were not uniform in the mints and he stated: "In the course of comments in the present report on the same subject--that is, of gains in the operations of melting and refining, in which an operative loss, provided for by law in the form of a legal allowance for wastage, is essential to the process employed--occasion was taken to point out the prevalence, at more than one of the mints, of a practice not sanctioned by law, namely, of including in allowances on bullion (deposited or received on purchases) for mechanical impurities such as sandage and moisture, a margin sufficient also to cover metallurgical losses, especially such as unavoidably arise from volatilization in the case of silver, and to a minor extent in the case of gold when alloyed with certain volatile metals."

Pre-melting weight

3/ The surplus was 1500.667 ounces of gold, 5,212.05 silver.

Mr. Kimball was, as has been demonstrated, wrong, and he was dissuaded from his position, for the 1888 Regulations issued by him continued the provisions for deductions, as did those issued in 1890 by Edward O. Leech who then had become the Director. Under these Regulations, the Melter and Refiner at any of the coinage mints or the Assay Office at New York, if he had grounds for questioning the fineness of any deposit which was reported by the Assayer, could report the circumstances to the Superintendent who was to reorder an assay of the deposit and prescribe precautions for verification. These Regulations also contained provisions for deduction for "unavoidable loss in the removal of base metal".^{4/} *Deduction*

In the 1908 Regulations, while deductions in weight were still allowed, they were to be made only in extreme cases of bars carrying base metals, where "after melting they show specific adhesions of foreign substances that can not be removed by hammering, brushing, or other methods of cleaning."

The Table of Charges, effective March 1, 1908, however, states, in item 4 "Charges under this head must be imposed as prescribed in Section 1, Article 6, of Rules and Regulations governing Mints and Assay Offices taking effect March 1, 1908." Article 6, of these Regulations, headed "Extra Charges" referred to base gold or silver bullion containing certain substances "in amounts sufficient to make it impossible to obtain a satisfactory assay" and required that the bullion, at the discretion of the superintendent, be subject to an additional charge equal to the cost to the government for remelting and retreating "by the deposit melter". Obviously the weight of such deposits was reported after they had been remelted and retreated, so that the loss of metals inherent in the remelting was borne by the depositor. This is emphasized by another sentence in Article 6: "This cost shall embrace labor, fuel, and chemicals, a memorandum of which shall be furnished the Assayer, who will add the amount as an item in his report of the ordinary charges".

The July 1, 1910 Table of Charges contains the following paragraph: "Bullion containing one or more of the following substances, viz: Iron, lead, antimony, bismuth, tin, arsenic, zinc, or sulphur, in amounts sufficient to make it impossible to obtain a satisfactory assay, shall, at the discretion of the superintendent, be subject to an additional charge equal to the cost to the Government for remelting and treatment by the deposit melter".

In 1915, this provision covered all deposits which failed to give "concordant assays", and required the return to the depositor of impure deposits which failed to give concordant assays on the second melting.

- 4/ The 1888 gain at San Francisco was 1,103 ounces gold, 1,216 ounces silver; In 1889 it was 461 gold gain, silver loss 161 ounces; 1890 gold gain 638 ounces, silver gain 222 ounces; 1891, gold gain 806 ounces, silver gain 1,575 ounces.

The formal deductions in weight allowed by the regulations were abandoned as such in 1947 because of experience gained in operating upon bullion containing base metals. The Assayers, in reporting their assays on materials which would show a loss in refining, make compensation through the exercise of their judgment. The current Table of Charges, however, continues the provision for remelting deposits in the deposit melting room and all deposits requiring "excessive treatment" are subject to extra charges.

The Assayers in charge of the small offices, who had no statutory wastage allowance and whose bullion was forwarded to another office, were careful, in reporting assays, that the credit given to the depositor would not exceed that which the mint would give to them. This was explained to a Congressional Committee by the Honorable George E. Roberts, then Director of the Mint on May 11, 1911 as follows:

"MR. ROBERTS. If there is a gain, it accrues to the Government; but the differences are slight, and they commonly offset each other. Usually in the course of a year the assay office will come out ahead, because the assayer in charge of that institution will not allow himself to be short. He takes care of himself and sees to it that he is on the safe side.

MR. GARRETT. The responsibility rests on him?

MR. ROBERTS. Yes, sir; if he paid out more money than this bullion amounted to when it reached the mint he would be short in his accounts.

MR. GARRETT. Then the loss would fall on him?

MR. ROBERTS. Yes, sir.

THE CHAIRMAN. He is instrumental in fixing the value of the bullion and is responsible for it.

MR. ROBERTS. He keeps his assays down so that he is on the safe side. Before the close of the year he knows whether he is ahead or behind.

THE CHAIRMAN. Suppose the assayer at the assay office holds it down too low?

MR. ROBERTS. Then the depositor loses and the Government is ahead.

"THE CHAIRMAN. There would be no way for the depositor to get back the amount of the difference?

MR. ROBERTS. No, sir; he is paid for his bullion, accepts it, and has no knowledge of any subsequent assays.

THE CHAIRMAN. That closes the transaction between him and the assayer?

MR. ROBERTS. Yes, sir.

MR. LOBECK. The particular object of the assayer at the local assay office is to see that he does not get short in his accounts. He does not want to take advantage of the producer, and all that he desires is to avoid being short in his account?

MR. ROBERTS. That is all, and the differences are very slight."

Prior to 1912 the Melter and Refiner was a Presidential appointee independent of the Superintendent and of the Assayer and as a constitutional officer he was the insurer of the values in his custody. Under these circumstances it might be argued that he was entitled to greater protection than the present superintendents of Melting and Refining who are civil service employees bonded only for the faithful discharge of their duties.

Such thinking would represent a misconception of the purpose of the allowances. These allowances were for the protection of the Government, not of an individual officer. The safeguarding of the Government against overpayment, exercised in the Assayer's department and in the after melting weighing in the Deposit Melting Room, is as essential now as it was then. There was no intention, at the time the change in the status of the Melter and Refiner was made, to eliminate any of the checks and balances. The same Director, George E. Roberts, quoted before on the subject of the small assay offices, in the same hearings on the same date informed the same committee that he would like to see the presidential appointment of the Melter and Refiner and of the Coiner eliminated and would like to have these people appointed by the Superintendent. He felt that these officials were more independent of the Superintendent than they would be if appointed by him and that consequently the organization was not as effective. He stated that the original necessity for the different departments was that they were dealing with great values and that such an organization would make it more secure in that one would be a check against the other. He stated that he would not disturb the checks at all, but wished only to increase the efficiency of the mints. No change in the Assayer's status was suggested, as that officer must approve all payments for bullion by

the Superintendent and it was thought wise to leave that check.

In testifying before the sub-committee of the House Committee on Appropriations on January 30, 1912 regarding the provision which abolished the positions and substituted superintendents of the departments, A. Piatt Andrew, Assistant Secretary of the Treasury (who had been a Director of the Mint) stated that the administration of the Mint had been more or less unsatisfactory because the Superintendent of the Mint had only nominally been in charge of the institution since the Assayer, the Melter and Refiner and the Coiner were coordinate officials. He stated that this had been a source of friction and of maladministration and involved a division of responsibility, which they wanted to get rid of. In testifying before the committee Mr. Andrew said in regard to New York: "We propose there a superintendent of melting and refining in place of the melter and refiner, with a salary of \$3,000. I do not feel that that is at all excessive, as the position requires a thorough expert knowledge. We have, as you know, adopted in all of our mints an electrolytic method of refining, which requires scientific, technical knowledge. It is a position also of great responsibility, as that is the one part of the service where it is difficult to safeguard the gold".

Although the Director of the Mint had recommended that the superintendents of the operative departments be appointed by the superintendent of each institution, the Treasury Department did not agree, and the provision submitted by the Secretary was that they and all other assistants and employees be appointed by the Secretary, "upon the nomination of the principal officer in charge of said Mints and Assay Offices, and the recommendations of the Director of the Mint." The appropriation committee eliminated the quoted phrase and left the appointments with the Secretary.

With the new status of the heads of the operative departments, the Assayer remained the only check upon the Superintendent in making payment for deposits. The Superintendent of the Melting and Refining Department could require a re-assay on anything that he considered to be overvalued. The judgment of the Assayer, in determining that overpayment was not made to the depositor, superseded the prior formal allowances for deductions.

The provisions of the Act of 1873 have not been changed in any other particular here pertinent, and are still the statutory provisions under which the Mint operates.

In conclusion it is submitted that the laws intended to and do provide that the necessary wastage of precious metal incurred in refining a deposit be borne by the depositor at the time of and in connection with the evaluation of the deposit for payment. The Assayer must exercise

judgment in evaluating determinations made on deposit samples prior to establishing the assay figure to be reported as the basis for payment, so as to insure that no refining loss shall subsequently be borne by the government. In other words, the Assayer shall not report more gold or silver than can be recovered in the form of fine or coin bars; to do so would result in overpayment to the depositor and loss to the government.

The basic responsibility rests upon the Superintendent and the Assayer of the institution. To paraphrase the words of Director Roberts, "The particular object of the head of the institution is to see that the Government does not get short in its accounts. He does not want to take advantage of the producer, and all that he desires is to avoid being short in his accounts."

1. Early deposits required no refining.
 - a. So there was no refining loss.
 - b. Legal loss tolerance didn't have to cover a refining loss.
 - c. Legal loss tolerance covered parting, alloying, etc.
2. Base deposits required additional processing.
 - a. A silver loss occurred at Philadelphia.
 - (1) 1872 committee blamed base deposits.
 - (a) Committee found Philadelphia made no weight deduction and questioned legality.
 - (b) Found Philadelphia assays "embarrassed."
 - (c) Found Philadelphia merely melted and cast deposit.
 - (2) Committee found New York partially "fire refined" during deposit melting.
 - (3) Found New York made weight deduction.
 - (4) Found "refinery" loss fell on depositor in New York.
 - b. 1872 Committee recommended:
 - (1) M & R supervise and direct mode of melting to eliminate substances that might cause undue loss (fire refining).
 - (2) M & R empowered to require information from Assayer as to nature and quantities of base components. (Presumably to enable someone to make some kind of deduction. However, authority for a deduction not requested.)
3. Treasury Department submitted Mint bill to control situation.
 - a. 1870 draft made no change in deposit melting and receiving procedures.
 - b. In early 1872 (before 1872 Philadelphia loss) Secretary of the Treasury recommended to Congress:

That fitness of deposits and mode of melting should be decided by M & R or Assayer. (Treasury apparently made no recommendation following report of 1872 committee.)

4. Act passed February 12, 1873 - Section 22 provided

- a. That where processing was required to ascertain value, then "true weight" should be that determined after melting or refining.* (presumably fire)
- b. That fitness should be determined by Assayer.*
- c. That mode of melting should be determined by the M & R.*

5. Secretary of the Treasury's interpretation of 1873 Act (2 weeks after passage) suggested:

- a. Refining during deposit melting where deduction should be made for refining loss.
- b. Reason given was that Sec. 25 of 1873 Act required charges paid by depositor to include "ordinary wastage" incident to bringing bullion to standard condition. (Sec. Treas. letter does not suggest a deduction for future refining loss but indicates either the Government will be the loser if the deposit is not "fire refined" or that future loss must be included in charges paid by depositor. This is first place where deduction for refinery loss is mentioned in terms.)

6. Section 25 of 1873 Act provided:

- a. For charges to be collected from depositors for subsequent processing among which processes were
 - (1) Melting and refining when the bullion was below standard, and
 - (2) Separating the gold and silver.
- b. Charges were to cover the costs, including wastage, in each process mentioned.

7. Bureau interpretation of Sec-Treas. letter of February 26, 1873 is:

- a. That by bringing bullion to standard condition he meant "good bullion." (He didn't say "good". He was talking about bullion which needed to be refined.)

*Synopsis says wording is due to 1872 committee, but more properly appears result of Secretary of the Treasury's prior letter.

- b. That only parting, alloying and casting was needed to bring the "good bullion" to standard condition.
- c. That the "ordinary wastage" referred to by Sec.-Treas. was not in refining, but only in parting, etc. (See Section 25 with respect to charge for wastage on refining.)

8. Bureau interpretation of procedure under 1837 Act.

- a. Refiner was charged only with the weight of standard metal the deposit would make.
(He was charged with the amount for which the depositor was paid.)
- b. The refining wastage was borne by the depositor.
(The 1872 committee said that at Philadelphia it fell on the Mint itself.)
- c. If Treasury had intended Mints to bear refinery loss, it would have asked for increase instead of decrease of legal wastage allowance in 1873 Act following report of 1872 committee.
(Remember that the committee didn't recommend that deductions be authorized, the Treasury didn't ask for them and the 1873 Act didn't provide for them. The committee, the Congress and the Secretary of the Treasury presumably thought better melting (fire refining?) would solve the problems.)

9. 1874 Mint Regulations provided:

a. For weight deductions

- (1) "As compensation for unavoidable loss in fitting bullion for deposit." Specific percentages were set forth.
(This would appear to cover any metal lost in melting well enough to get deposit acceptable and obtain concordant assay.)

- (2) By the M & R for deposits containing base other than copper.
(Bureau says these deductions must have been authorized in lieu of fire refining in the Deposit Melting Room and was more advantageous to the depositor. No citation is given. Where was the legal authority for these deductions?)

- b. M & R be empowered to call upon Assayer for deposit information.

10. The Bureau synopsis states that the history of Section 22 of the 1873 Act establishes that wastage allowance was not intended to cover refining wastage, but only wastage in processing previously refined material through parting operation, etc.

(Sec. 22 does not say that. The 1874 Regulations allowed deductions, but didn't say whether they were to cover refining losses or something else. The 1874 Regulations were not made "at time of the Act" of 1873, but later.

Since the 1873 Act was silent with respect to empowering the Melter and Refiner to call upon the Assayer for deposit information, whereas such provision was incorporated in the 1874 Regulations, it may be that the report of the 1872 committee was not presented to Congress or had no effect on the new Act.)

11. Succeeding Directors of the Mint approved of weight deductions.

- a. Burchard in 1880 directed the San Francisco Mint to make weight deductions.
- b. Burchard in 1881 expressed opinion that San Francisco's loss that year was due to base metals in deposits received that year. Also that a study was being made to determine the extent of this cause on the loss.
(How was this discovered the same year? Bureau synopsis does not report the results of the study.)
- c. In 1885 Director's Report, one Leech explains that surplus at San Francisco was due partly to allowing M & R taking deductions on base deposits after the Assayer has reported the base content.
(This was defrauding depositor, wasn't it?)

12. Director Kimball questioned practice of weight deductions:

- a. Pointed out lack of uniformity at various Mint institutions.
- b. Referred to legal wastage allowances.
- c. Said deductions were not sanctioned by law.

- 4-
13. Bureau synopsis declares Mr. Kimball was wrong and that he later changed his position.
 - a. His 1888 regulations continued provisions for weight deductions.
 - b. Director Leech's 1890 regulations also continued the provisions.
 - c. The regulations authorized deductions for "unavoidable loss in the removal of base metal."
(A footnote on page 7 shows that San Francisco had large gains from 1888 through 1891, which raises the question as to whether the deductions were necessary or were in excess of what was required to cover any processing loss.)
 14. The 1908 Mint Regulations limited the making of weight deductions to extreme cases where bars had adhesions or foreign substances which could not be removed by hammer, brushing or other method of cleaning.
 15. The Bureau synopsis points out that extra charges were imposed under the various tables of charges where a satisfactory assay could not be obtained.
 - a. The 1908 table required a charge for remelting and retreatment in such a case.
(No one questions the necessity of reworking deposits in such a case or the propriety of charging depositors for the additional work.)
 - b. The synopsis points out that any loss of metal from reworking fell on the depositor.
(Of course it fell on the depositor, since until the additional work was done the deposit could not be assayed and was not even acceptable.)
 - c. The 1910 table authorized an additional charge for remelting and retreatment where certain specified metals made it impossible to obtain a satisfactory assay.
 - d. The 1915 table provided for the extra charge for reworking where the first attempt to determine fineness failed to result in "concordant assays."
(The relevance of references to charging the depositor for reworking deposits is not understood. The tables do not authorize a deduction in weight or in assay. The depositor was paid on the basis of an after-melt weight after a homogeneous bar was produced which gave concordant assays.)

16. The synopsis says that provisions for "formal" deductions in weight were stricken from the regulations in 1947 "because of experience gained in operating upon bullion containing base metals."

(Apparently this 1947 decision was overlooked, for the necessity for weight deductions was stoutly maintained by both our Mr. Miller and members of the Bureau staff until the last few months. May not the provisions for deductions have been stricken from the 1947 regulations due to the fact that the Act of 1873 did not provide for them?)

17. The Bureau synopsis then makes this statement: "The Assayers, in reporting their assays on materials which would show a loss in refining, make compensation through the exercise of their judgment."

(Up to this point the Bureau synopsis has not cited any section of the law, any provision of the Mint Regulations or any quotation from any Mint official which supplied the Assayer with this authority or transferred such a responsibility to him. Since this statement follows the reference to discontinuing in 1947 the provision for weight deductions, it might be inferred from the context that this deduction is in lieu of weight deductions for which, as pointed out previously, there was no legal provision. How this authority or responsibility was transferred to the Assayer is not explained. Up to this time only a weight deduction has been under discussion.)

18. The Bureau synopsis then quotes from testimony of Director Roberts in 1911 before a Congressional committee. On the surface this testimony would appear to be relevant since Mr. Roberts said that "an Assayer in charge of a small assay office keeps his assays down so that he is on the safe side."

(There was no suggestion by Mr. Roberts that the Assayer in charge of these offices was obliged to foresee some future refining loss which might occur at the Mint to which his bullion was shipped. Mr. Roberts said that the purpose of the Assayer was "so that he did not get short in his accounts.")

The small assay offices sent their bars to the Mint or mass melted them. So long as the Mint found that these redeposits from the small assay offices weighed as much and assayed as fine as the weights and assays at which they were received originally, the small assay offices were given receipts and fully released from any further obligation with respect to the bullion.

7
-8-

It should be noted that this is the first reference by any Mint official which even suggests that an adjustment was made in the scientific determinations reached during the assay process.)

19. The Bureau synopsis then discusses at length the changing of the status of the Melter and Refiner from that of a Presidential Appointee to that of a Civil Service official.

(While interesting from the standpoint of history, we are not clear as to the relevance of this discussion with respect to increasing the scope of the authority and responsibility of the Assayer.)

20. The Bureau synopsis then makes this statement: "The judgment of the Assayer, in determining that overpayment was not made to the depositor superseded the prior formal allowances for deductions."

(Again, there is no citation of law or regulation imposing this responsibility on the Assayer.)

21. The Bureau synopsis then points out that the provisions of the Act of 1873 are still in effect.

(This is true.)

22. The Bureau synopsis then says, "In conclusion it is submitted that the laws intended to and did provide that the necessary wastage of precious metal incurred in refining a deposit be borne by the depositor at the time of and in connection with the evaluation of the deposit for payment."

(If the "refining" mentioned here were limited to the wastage which occurred to the depositor during a thoroughgoing and efficient deposit melting operation, it would then be supported by the following:

- (1) The 1872 committee of Dr. Linderman and Professor Rogers.
- (2) The deposit melting procedure at the New York Assay Office which they describe.
- (3) The committee's recommendation for the elimination during deposit melting "of such substance as might cause undue loss."
- (4) The letter of the Secretary of the Treasury of February 26, 1873, which urged refining in connection with deposit melting.

- 8
-X-
- (5) The provisions in the various tables of charges which provided for collecting from the depositor in money for the wastage which occurred during refining.)
23. The synopsis continued with the statement that the Assayer must exercise judgment to insure that no refining loss shall subsequently be borne by the Government.
- (This is the third time this conclusion is stated and, again, there is no citation to a provision of law to support it.)
24. The synopsis concludes with the statement that the responsibility rests upon the Superintendent and the Assayer to see that "the Government does not get short in its accounts."
- (So far as we know, the Government does not get short in its accounts. Usually a surplus accrues from the present method of reporting assays according to the scientific determination. When a refinery loss has occurred in the past, there apparently has been no hesitancy in paying it from appropriated funds under the provisions of the statute which provides for the payment of wastage which is within the legal tolerance. It has not been thought heretofore, so far as we know, that the Government was "short in its accounts" when these rare losses occurred.)
- Consideration should be given to the effect of making a legal declaration at this time that the provisions of the law permitting wastage within certain specified limits do not cover a refinery loss. No Superintendent would willingly relinquish this protection of the law and rely upon the Assayer to prevent refinery losses in a refining operation over which the Assayer has no supervision and control.)

C + D = 858 1/4
E + F = 858 1/2

Check Assays 11/11/58

Bar No	Test No	Original Assay		Check Assay Gold	Check Assay Silver	Weight
		Gold	Silver			
1958	1	858 3/4	140			76
	A+B			858 1/2		
	C+D			858 1/2		
	E+F			858 1/2		
not concordant results: Morrel told Witten sample have another	102	468 1/2	084			49
	A+B			467 1/4		
	C+D			469 1/2		
	E+F			469 1/2		
116	3	543	127			63
542 3/4 +	A+B			543 1/4		
	C+D			542 3/4		
	E+F			542 1/2		
203	4	828 1/4	162			114
	A+B			828 1/4		
	C+D			828 1/4		
	E+F			828 1/4		
Same as 239	5	233 3/4	068 1/2			66
	A+B			232		
	C+D			234 1/2		
	E+F			236		
original assay low	6	377	083			86
	A+B			377 1/4		
	C+D			377 1/2		
	E+F			378 1/2		



Through bar



top & bottom



top of bar

11/24/58

GOLD MELTING PROGRAM
PAGE FIGURES THROUGH DENVER MEL 75

Dead Weight Basis

	Gross Ounces	Average Fineness	Fine Ounces
Melt Room Charge	674,128.34	999.669	673,905.588
Melt Room Returns			
Gold Issue Bars	671,515.26	999.580	671,225.168
Clean-up & Residues	2,423.22	987.257	2,392.341
Samples	191.81	997.700	191.369
Total	<u>674,130.29</u>	<u>999.535</u>	<u>673,817.483</u>
Surplus or Wastage	+ 1.95		- 88.105

999.669 Average fineness of material charged
 999.580 " " Gold Issue Bars returned
0.089 Loss in fineness due to assay differences

$$674,128.34 \times 0.000089 = 59.997 \text{ Fine ounces lost through assay differences}$$

$$88.105 - 59.997 = 28.108 \text{ Fine ounces, processing wastage}$$

$$28.108 \div 673,905.588 = 0.041 \text{ Fine ounce per 1,000, processing wastage}$$

Actual Charge & Credit Basis

	Gross Ounces	Average Fineness	Fine Ounces
Melt Room Charge	674,118.08	999.669	673,895.345
Melt Room Returns			
Gold Issue Bars	671,506.65	999.580	671,225.168
Clean-up & Residues	2,423.22	987.257	2,392.341
Samples	191.81	997.700	191.369
Total	<u>674,121.68</u>	<u>999.535</u>	<u>673,808.878</u>
Surplus or Wastage	+ 3.60		- 86.467

999.669 Average fineness of material charged
 999.580 " " Gold Issue Bars returned
0.089 Loss in fineness due to assay differences

$$674,118.08 \times 0.000089 = 59.996 \text{ Fine ounces lost through assay differences}$$

$$86.467 - 59.996 = 26.471 \text{ Fine ounces, processing wastage}$$

$$26.471 \div 673,895.345 = 0.039 \text{ Fine ounces per 1,000, processing wastage}$$

Y. Year	Regular Grains	Grains Bars Composition (Per Melter's Cards)		(Tr.Oz.)	11/28/58
		Coin	K-Grains Added		
1950	437.00	2.66	318.06	757.72	
(Incomplete)					
{ 4-months					
{ missing }					
1951	732.05	6.70	122.63	861.38	
1952	721.16	.98	133.01	855.15	
1953	632.67	.77	184.19	817.63	
1954	657.21	10.27	117.81	785.29	
1955	855.17	40.99	73.98	970.14	
1956	743.47	4.17	60.72	808.36	
1957	760.17	11.79	128.59	900.55	
1958	850.93}	10.39	352.70	1,225.01	
(Homesk)	10.99)				

P.

TO:

Mr. Reddish

November 28, 1958

RECEIVED

Mrs. Alma K. Schneider,
Superintendent,
United States Mint,
Denver, Colorado.

DEC 1 1958

OFFICE OF
SUPERINTENDENT
U. S. MINT AT DENVER

Dear Mrs. Schneider:

Information was compiled by my committee in connection with its recent study of deposit receiving activities at your institution. In accordance with assurances given to you by the committee, I am enclosing a recapitulation sheet showing the results of all mass melting operations at the Denver Mint for the period 1935 through 1958, for which data are available. All results are based on Denver Mint weights and assays.

No record is found of a cleanup melt of mass melts #15 to 32 of the year 1935, and therefore, the incomplete data for that year will not be used in the following analysis of the results. Nevertheless, I point out that there was a gain of 37.835 fine ounces of gold on the 1935 mass melts which would have been increased by the gold contained in a cleanup melt.

If the figures for 1936, 1937 and 1940 mass melts are totaled, the record shows that 244,075.43 gross ounces of deposits containing 128,044.969 fine ounces of gold, showed a gain in massed weight before melting of 71.27 gross ounces and a gain in gold content after melting of 127.829 fine ounces.

The figures for 1958 show that 259,590.94 gross ounces of deposits containing 137,952.274 fine ounces of gold, showed a gain in massed weight before melting of 10.98 gross ounces and a gain in gold content after melting, of 15.407 fine ounces.

I view this information as evidence from Denver records that substantial changes have been made in the weighing and assaying procedures used in the valuation of deposits at the Denver Mint.

Detailed records of 1935, 1936, 1937 and 1940, mass melt operations showed that 58 of the 81 mass melts showed a gain in gold and that 23 showed a loss.

Mrs. Schneider

- 2 -

Nov. 28, 1958

Detailed records of the 1958 mass melt operation showed that only 4 of the 35 mass melts showed a gain in gold and that 31 melts showed a loss.

Further, all of the mass melts representing Josten Co., deposits (1958), #1 to #17, showed losses except one melt that produced an insignificant gain; even when the cleanup bar for melts 1-17 is included, there is a net loss of 13.302 fine ounces of gold.

These melts represent over 53% of the gross weight of the metal massed and contain 85.7% of the total base metals which will ultimately have to be extracted from the 1958 mass melts by the Mint's refining process. I conclude, therefore, that the amount of gold paid for in the deposit bars which composed mass melts 1 to 17 cannot successfully be recovered in the refining operation.

Furthermore, the exorbitant gain on melts 29 and 30, of 21.680 fine ounces on only 12,000 ounces gross, indicates the probability of some error in the handling of this bullion. If the results of these two melts were excluded from consideration, the total mass melting operation would have resulted in a loss of 6 fine ounces instead of a meager gain.

Copies of this letter are enclosed for Messrs. Reddish, Merrill, LaFollette, Miller, Judge, Gray, and Philippus.

Very truly yours,

(Signed) WM. H. BRETT

Director of the Mint

Enclosures.

DATA FROM DENVER RECORDS OF MASS MELTING OPERATIONS

FISCAL 1935, 1936, 1937, 1940, 1958

DEPOSITS MASSED PER ACCOUNTS	MASSED		WEIGHT		GOLD		GOLD
	WEIGHT		GAIN		CONTENT		CONTENT
	GOLD	BEFORE	BEFORE	AFTER	AFTER	AFTER	GAIN
	WEIGHT	BEFORE	MELTING	MELTING	MELTING	MELTING	AFTER
	GROSS	GROSS	GROSS	GROSS	GROSS	FINE	FINE
	OUNCE	OUNCE	OUNCE	OUNCE	OUNCE	OUNCE	OUNCE
FISCAL 1935 (Incomplete - no record found of final cleanup, melts 15 to 32)	161,637.97	71,677.716	161,691.71	+ 53.74	161,592.95	71,715.551	+ 37.835
FISCAL 1936	131,216.11	65,672.636	131,243.75	+ 27.64	131,192.33	65,742.658	+ 70.022
1937	100,829.02	55,196.810	100,868.05	+ 39.03	100,818.46	55,249.719	+ 52.909
1940	12,030.30	7,175.523	12,034.90	+ 4.60	12,029.47	7,180.421	+ 4.898
Subtotal - 1936, '37, '40	244,075.43	128,044.969	244,146.70	+ 71.27	244,040.26	128,172.798	+ 127.829
Gain Per 1000 Gross Ozs.				+ 0.29			+ 0.523
FISCAL 1958	259,590.94	137,952.274	259,601.92	+ 10.98	259,518.53	137,967.681	+ 15.407
Gain Per 1000 Gross Ozs.				+ 0.04			+ 0.059

* As explained in attached Director's letter of November 25, 1958, Mass melts 29 and 30 show a gain of 21.680 fine ounces on only 12,000 ounces gross, indicating the probability of an error. If these two melts were excluded, the mass melting operation would have resulted in a loss of approximately 6 fine ounces of gold.

12-2-58

Glenn Woodrow says when they were making Mass Melts in the M & R in the early years (1930's) etc., they were mass melting only bars under 100-oz. in weight, so there would not be so many bars to put thru Settlement. Bars over 100-oz. were used in making anodes.

Also segregated 800 fine and over from less than 800 fine (in metal-lined boxes).

Says he knows of no complaints that any changes were taking place in weighing tighter.

says X. Stoddard was extremely tight weigher

In 1958 - all deposits ^{for growth} were mass

⑩ melted.

surface bars supplied to him always had to be broken up to get the silver granulated to size. He carried a 15' long picket which he used to break up the bars.

STANLEY WOODROW

RECORDED

Dec. 3, 1958

Memo. on Bureau's letter of 11-28-58 - Re Mass Melts.

1. Woodrow states that during the years mentioned by the Bureau, (1936-1937-1940) mass melting was done only on bars weighing over 100 ounces.
2. Bureau attributes low-gain of 1958 melting largely to the presence of the Josten deposits.
3. The following comparison is made if bars weighing over 100 ounces are eliminated from the 1958 experiment. This leaves only one group of miscellaneous bars:

Items	Gross Ounces	Fine Ounces	Gains in	Gains in
			Gr. Weights	Fine Oz.
1958	24,522.56	21,790.331	1.46	5.263
{1936-1937-				
{1940	244,075.43	128,044.969	71.27	127.829

While the gross ounces in this type of bar was 10 times the volume operated on in 1958, the gold recovery in 1958 was 17 times *ratio* that of the older years.

If we then multiply the net gold recovery of 1958 (5.263) by 17 we arrive at 89.471, which is equal to 70% of the recovery in fine ounces which the Bureau states occurred in the 1930's (127.829)

RECEIVED
DEC 8 1958

OFFICE OF
SUPERINTENDENT
U. S. MINT AT DENVER

REPORT ON RECEIVING AND WEIGHING DEPOSITS AND RELATED PROBLEMS

UNITED STATES MINT AT DENVER, COLORADO

The Director of the Mint appointed a committee to review deposit receiving procedures and related problems at the United States Mint, at Denver, Colorado. In a letter of instructions dated September 19, 1958, the committee was requested to discuss and review the practices and procedures followed in connection with the over-all problem of receiving, weighing and assaying deposits, and to review the general policies followed at Denver in regard to these matters.

The committee began its work at the Denver Mint on September 29, 1958. During the period from September 29 through October 2, 1958, a series of discussions were held with Denver officials on the subjects of receiving deposits, weighing, assaying, refining, and related problems. These discussions were tape recorded. Representatives of the Denver Mint included Messrs. Marshall Reddish, Richard Merrill, Bruce LaFollette, Walter Judge, Albert Philippus, and on the last day Charles Miller and Cecil Gray. Representatives of the Director included Messrs. Frederick Tate, Philip Neisser and Gunnar Wiggen.

Based on these discussions, and on an analysis and review of the records in Denver, the Committee has reached the following conclusions:

1. Mint regulations, Article III, Section 15, page 12, and the Law, Title 31 USC 369 were violated by using Treasury surplus bullion belonging to the General Fund of the Treasury to offset shortages resulting from overpayments to depositors for grains.
2. Mint regulations, Article III, Section 15, page 12, and the Law, Title 31 USC 369 were violated by using Treasury surplus bullion belonging to the General Fund of the Treasury to offset shortages resulting from small overpayments to depositors for bullion.
3. Depositors of low grade bullion have been overpaid. This was established by comparing the gold paid for with the gold contained in mass melts, both determinations based on Denver assays.
4. There has been a substantial change in assaying and weighing procedures in favor of the depositors, subsequent to 1940.
5. The grains account has been manipulated in order to please a large depositor (Homestake) with the after melting results of his deposits.

The above conclusions are discussed in detail in the attached exhibits, 1 through 5.

In view of the conclusions reached, the committee makes the following recommendations:

- (1) A procedure should be adopted in both the M&R and Cash and Deposits Divisions for reviewing the grains account at the end of each month so that any improper procedure which results in a shortage or overpayment can immediately be detected and located, and the procedure corrected in connection with future receipts.
- (2) Cash and Deposits Division employees should do a more careful job of weighing deposit bars, using judgment in making allowances and providing swings in order to prevent overpayments.
- (3) Deposit grains should be carefully examined and appropriate allowances made for dirt, slag, etc., before payment is made to depositors.
- (4) Appropriate controls should be established over "K grains", which are surplus bullion, and all other recoveries from deposit operations not identifiable with a particular deposit, to assure that all such values are deposited into the Treasury as Miscellaneous Receipts.
- (5) Surplus bullion, in the form of "K grains", should under no circumstances be used to offset small overpayments to depositors.
- (6) Surplus bullion, in the form of "K grains" should under no circumstances be used to offset shortages in the deposit grains account due to overpayments to depositors or for any other reason.
- (7) The practice of adding surplus bullion, "K grains", to monthly deposit grain bars should be immediately discontinued. These grains, as well as any other recoveries from deposit operations are surplus bullion for deposit into the Treasury as Miscellaneous Receipts.
- (8) The practice of melting deposit grains into individual small buttons should be discontinued immediately.
- (9) The practice of adjusting the after-melting weight of Homestake Mining Company deposits by the addition or subtraction of grains should be discontinued immediately.

(10) Periodic reviews, tests and other checks should be made by Denver to determine that weighing and assaying are performed in a manner that will fully protect the interest of the Government. Also, the Assayer should begin immediately to evaluate deposits in accordance with the directive issued by the Director of the Mint on September 23, 1958.

Fredrik W. Tate
Philip B. Neisser
Albert H. Norman

Gunnar C. Wiggen

Sidney F. Parwile

Submitted:
December 3, 1958

V VIOLATION OF MINT REGULATIONS ARTICLE III, SECTION 15,
AND TITLE 31 U.S.C. 369 BY USING TREASURY SURPLUS
BULLION TO OFFSET SHORTAGES RESULTING FROM OVERPAYMENTS
TO DEPOSITORS FOR GRAINS

During the discussions at Denver, Mr. Reddish was asked if he had any knowledge of overpayments to depositors. He replied that he had no such information. Mr. Reddish then stated that, in his judgment, Denver has a very fine system of assaying and receiving deposits which has protected the Government.

It was later brought out in the recorded discussions that a shortage of approximately 25 fine ounces of gold had developed in the grains account in July 1957, because of overpayments, and that the shortage grew to about 45 fine ounces by the end of January, at which time it was brought to Mr. Reddish's attention. Mr. Reddish was appointed by the Superintendent of the Mint to investigate the shortage.

During the discussions Mr. Reddish criticized Mr. Miller for not having reported the shortage sooner, i.e., he should have reported it at the end of July instead of waiting until the end of January. Mr. Reddish indicated that there was no shortage and that Mr. Miller had no reason to complain about the problem at the time of the conference, as during the remainder of the fiscal year 1958 he had received all the metal that was due the M&R Division in the grains account.

Mr. Miller replied that he had received all the metal due him, but he wanted to know where the metal came from that was used to make up the shortage.

Mr. Reddish asked the committee to agree with him that there was no shortage. The committee took the position that grave charges had been made and informed Mr. Reddish that the committee would look into the matter, which was done.

Mint regulations, Article III, Section 8 (page 10), provide that a depositor shall have the benefit of the granules in the flux, the scrapings of the crucibles, etc. These are called "grains".

Deposits are melted and cast into bars. Before another deposit is melted in the same crucible, grains are scraped from the crucible, and together with granules from the flux are cleaned and placed in an envelope which is identified with the deposit bar from that deposit. The depositor is paid for the weight of the bar plus the weight of the grains which were recovered after melting his deposit. At the end of the month, grains are removed from all envelopes, massed into a single monthly grains bar, and delivered with the deposit bars to the M&R Division.

The committee found that a shortage existed at the end of July 1957 of 25.870 fine ounces of gold. This shortage continued to grow until it reached 45.031 fine ounces at the end of January 1958, at which time it was reported to the Superintendent. The following tables show the status of the grains account by months for the fiscal year 1958:

Grains Account for Gold OnlyFiscal Year 1958

Month	<u>Grains Paid For</u>		<u>Grain Bars Delivered including Assay Samples to IGR Div.</u>		<u>Difference</u>	<u>Cumulative</u>
	<u>Gross Ozs.</u>	<u>Fine Ozs.</u>	<u>Gross Ozs.</u>	<u>Fine Ozs.</u>	<u>Monthly</u>	
July	129.54	79.289	111.63	53.419	-25.870	-25.870
August	71.47	53.407	85.89	52.387	-1.020	-26.890
September	73.94	45.356	109.86	44.587	-.769	-27.659
October	58.53	34.009	88.60	30.364	-3.645	-31.304
November	63.57	31.312	110.02	31.180	-.132	-31.436
December	46.91	22.869	77.14	20.974	-1.895	-33.331
January	114.04	65.215	116.08	53.515	-11.700	-45.031
February	46.49	20.458	121.40	34.174	13.716	-31.315
March	34.84	19.242	157.03	34.121	14.879	-16.436
April	21.57	12.216	121.13	38.103	25.887	9.451
May	57.35	20.954	78.37	28.330	7.376	16.827
June	21.91	9.318	22.88	10.238	.920	17.747
Total	740.16	413.645	1,200.03	431.392	17.747	

Comparison of Grains Paid for and Grains MeltedFiscal Year 1958

	<u>Grains Paid For</u> <u>Gross Ounces</u>	<u>Grains Melted</u> <u>Gross Ounces</u>	<u>Approximate</u> <u>Amount of</u> <u>Treasury</u> <u>Surplus</u> <u>Bullion Added</u>
July	129.54	116.80	-12.74
August	71.47	88.38	16.91
September	73.94	113.28	39.34
October	58.53	90.86	32.33
November	63.57	112.08	48.51
December	46.91	79.20	32.29
January	114.04	119.36	5.32
February	46.49	123.47	76.98
March	34.84	157.80	122.96
April	21.57	122.18	100.61
May	57.35	78.67	21.32
June	21.91	22.92	1.01
Total	740.16	1,225.00	484.84

Note: Since the fineness of the grains added to the account is not known, it would be difficult to establish the exact amount of fine ounces of gold added into the grains account to offset shortages.

In order to determine the source from which the metal came to make up the shortage, the committee discussed the matter with Mr. Philippus and Mr. Johnson, the deposit melter. They stated that the shortage was offset by the use of "K grains". They described "K grains" as recoveries from discarded and broken crucibles, lids, stirrers, etc., and any other recoveries not identifiable with any deposit. In order to obtain sufficient bullion to cover the shortage, the deposit crew worked overtime, at an additional cost of approximately \$675.00, to recover a large amount of "K grains" from an accumulation of old crucibles, lids, stirrers, etc.

The Mint regulations and the law clearly state that such recoveries are "surplus bullion", and as such belong to the general fund of the Treasury, and are not available to the Superintendent of a Mint to offset shortages.

The committee discussed the shortage in the grains account, and related subjects, with Mrs. Schneider, Mr. Reddish and Mr. Philippus on November 3, 1958.

The committee informed the Denver officials that the use of Treasury surplus gold to offset shortages in the grains account is a clear violation of Mint regulations - Article III, Section 15 - page 12, and a clear violation of Title 31, U.S.C. 369. Mrs. Schneider and Mr. Reddish told the committee that there was no shortage in the grains account, as all the metal that was due the M&R Division had been delivered before the end of the year. The Denver officials did not agree with the committee that the Mint regulations and the law had been violated.

The committee informed Mrs. Schneider that they would have to report this situation to the Director of the Mint. In view of the fact that surplus bullion belonging to the Treasury was used to offset an unexplained shortage in the grains account, it appears that consideration must be given to returning at least 45 fine ounces of gold, or possibly as much as approximately 100 fine ounces of gold to the Treasury as a Miscellaneous Receipt item and declaring a shortage in the Denver bullion accounts. This would, of course, have to be reported to the Bonding Company as a claim for settlement. Consideration would also have to be given to reporting the situation to the proper authorities as a possible violation of Section 641 or Section 2073 of Title 18, United States Code.

Mrs. Schneider requested that the committee include a statement in their report that surplus bullion had been used at the Denver Mint for a long period of time for similar purposes. She did not feel that it was fair to charge her account for a procedure that had been going on for 20 or 30 years. To the knowledge of the committee, this is the first instance in which a Mint official has ever permitted the use of surplus bullion to offset a shortage.

The committee recognizes that a procedure of this nature could have gone on for several years without the knowledge of the Superintendent or the Assistant Superintendent of the Mint. What is disturbing to the committee is the fact that when the Assistant Superintendent came face to face with the problem in

February 1958, instead of stopping this illegal practice, and reporting it to the Director of the Mint, as required by Mint regulations, the same illegal method was used to cover up a shortage. The committee is of the opinion that the only proper action that could have been taken when the shortage was reported was to let the shortage remain in M&R accounts for adjustment in annual settlement, and to take corrective action to prevent future shortages. It is common knowledge, throughout the Mint Service, among officials and workmen handling deposits that surplus bullion belongs to the Treasury and is not available to the Mint.

The committee was alarmed at the disclosure of the shortage in the account, but the method used to cover the shortage was a matter of much greater concern than was the shortage itself.

The committee discussed the shortage in the grains account with Mr. Philippus and Mr. Johnson, the deposit melter, who explained that the shortage occurred as described, but had not come to their attention until the end of January. They were unable to give the committee any explanation as to why the shortage occurred, although Mr. Philippus stated that he thought the July shortage might have been due to the cut-off at the end of that month. If that theory were correct, the shortage would have decreased in August, however, as illustrated in the table above, the shortage increased in August and continued to increase through January. Mr. Johnson stated that the practice had been followed of paying depositors for the full weight of grains without making any deduction in weight for dirt, slag, adhering substances, etc., but he did feel that the grains had been cleaned thoroughly.

The committee asked Mr. Philippus if consideration had been given to the possibility of overpayments to depositors or to the possibility of theft when he was assisting Mr. Reddish in the investigation of the shortage. He replied that they had given consideration to all possibilities, but had arrived at no definite conclusion as to the reasons for the shortage.

The committee examined the grains account records for the fiscal year in an attempt to determine the reasons for the shortages. The two most logical explanations would be (a) theft or (b) overpayment to depositors. No information was developed or obtained which indicated that theft had occurred, however, a review of the records indicates that depositors could have been overpaid for their grains. The following table shows 10 deposits, paid for in the month of July 1957, with large payments for grains:

Large Payments for Grains

July 1957

<u>Name of Depositor</u>	<u>Assay Number</u>	<u>Gross Weight of Grains</u>
Idarado	50	19.65
"	101	3.17
Resurrection	1148	2.86
"	86	4.12
Josten	32	5.55
"	47	8.39
Homestake	29	3.69
"	43	11.31
"	56	7.78
"	81	<u>3.35</u>
	Total	69.87

The gross weight of the above grains is more than 50% of the total grains paid for in the month of July 1957. These grains were included as a part of the after-melting weight of the deposit, and paid for at the reported fineness of the bar. Since grains are seldom ever as fine as the bar, this no doubt contributed to the large loss on the grains bar for that month, and undoubtedly resulted in overpayments to the depositors.

The committee questioned the deposit melter in regard to the above listed large amounts of grains, but more than a year had passed since the deposits were melted and he did not recall anything specific about any of these deposits. In view of the fact that the grains for individual deposits had long since been melted into a grains bar, it would be impossible to establish conclusively that any particular depositor was overpaid for his grains.

Since discovery of the grains shortage in February until the end of the fiscal year, only five grain payments to depositors were in excess of 3 ounces, these being 3.19, 4.20, 3.01, 3.04, and 4.03 ounces. The average payment for grains is probably for less than $\frac{1}{2}$ ounce during this period.

The grains bars for July and August 1957 were on hand in a joint sealed vault. The committee released these bars from joint seal for check weighing and check assaying, to see if any error had occurred which would account for a part of the shortage. The weight of the bars was found to be satisfactory, and the assay results were as follows:

Check Assays on Grain Bars

<u>Melt Number</u>	<u>Reported Fineness per Schedule</u>		<u>Reported Fineness per Check Assay</u>	
	<u>Gold</u>	<u>Silver</u>	<u>Gold</u>	<u>Silver</u>
1	481	116	479 $\frac{1}{4}$	112
2	611 $\frac{1}{2}$	087	612	85 $\frac{1}{2}$

Note: Assay differences account for less than 1 ounce of gold.

Since there appeared to be no irregularities in the weights or assays of the grains bars, and in view of no indication of theft, the committee concludes that the shortage in the grains account resulted from overpayments to depositors.

EXHIBIT NO. 2

VIOLATION OF MINT REGULATIONS, ARTICLE III, SECTION 15,
AND TITLE 31, U.S.C. 369 BY USING TREASURY SURPLUS
BULLION TO OFFSET SMALL SHORTAGES RESULTING FROM OVER-
PAYMENTS TO DEPOSITORS FOR BULLION.

At the time the committee was investigating the shortage in the grains account, they noticed a number of deposit bars in the M&R vault with envelopes beside the bars. Upon inquiry, it was learned that these envelopes contained grains which were used to bring the deposit bar up to full weight. (Some envelopes contain small deposit bars of about 1 or 2 ounces each, with no grains.) All deposit bars are weighed at the time they are delivered to the M&R Division. Periodically, a bar is found that is short weight, and the M&R Division refuses to accept it. At that time, a quantity of grains would be added to make up the recorded weight of the bar, and the grains placed in an envelope and associated with that deposit bar. If not used in the refinery, or mass melted, the deposit bar and its envelope containing grains would be delivered in annual settlement.

The committee questioned Messrs. Philippus, Johnson and Aiten of the Cash and Deposits Division in regard to the source of the grains placed in the envelopes, and was informed that surplus bullion (the same as that used to offset the shortage in the grains account - Exhibit No. 1) was used to make up the weight shortages of individual deposit bars. The committee requested that a number of deposit bars, with envelopes, be removed from the vault and test weighed. The results are shown in the following table:

Last Weighing of Deposit BarsGross Ounces

<u>Assay No.</u>	<u>Scheduled Weight</u>	<u>Actual Weight (Witnessed by Committee)</u>	<u>Difference</u>	<u>Actual Weight of K Grains in Envelope</u>
(A - Deposits paid for in August and September, 1958)				
189-2	1317.70	1317.68	- .02	.05
235-2	1112.82	1112.82	0	.02
252	136.54	136.51	- .03	.09
310	604.17	604.16	- .01	.04
330	407.20	407.19	- .01	.04
338-2	1218.87	1218.85	- .02	.09

(B - Deposits paid for in fiscal year 1957)

708	309.36	309.35	- .01	.05
969	137.41	137.40	- .01	.06
9	6.47	6.47	0	0
563	94.11	94.08	- .03	.13
954	88.95	88.91	- .04	.05

Note: The committee examined the grains in each envelope. In most cases, the grains added were of a different composition from the bar, and the extra grains were added to make up the difference in fineness. For example, in the case of #252, short .03 in weight, they added .09 of low fineness grains, to produce about the same amount of fine gold contained in .03.

It was noted from the M&R Division records that the practice has been followed of recording the word "envelope" in the margin in the M&R records each time an envelope is associated with a deposit bar. As previously stated, small deposit bars are sometimes placed in envelopes and in a review of the M&R records to see how often the short weight situation had occurred, the committee ignored all envelopes where the weight of the bar was less than 3 ounces. The M&R records indicate the following number of envelopes where deposits weigh more than 3 ounces:

<u>Fiscal Year</u>	<u>Number of Envelopes</u>
1959 (July-September)	6
1958	7
1957	5
1956	12
1955	13
1954	16
1953	1
1952	9
1951	1

During the recorded discussions, reference was made to a question of tight weighing which was raised in 1954. Mr. Reddish told the committee that he and Mrs. Schneider had inquired into the problem at that time and found no need for changes in weighing procedures, and no changes were made.

The question of tight weighing came up again in 1955 when Mr. Straub of the General Accounting Office suggested that the Cashier weighed too tightly to accrue any benefit to the refinery. Mr. Reddish said that he and Mrs. Schneider went into the problem again at that time. They checked into legal provisions, instructions, etc., and found that the weighing procedures were in accordance with the Regulations.

The committee reported the small overpayments to depositors to Mrs. Schneider, Mr. Reddish and Mr. Philippus on November 3, 1958. Although these overpayments are small, each one is a violation of the Mint regulations and the law.

EXHIBIT NO. 3

OVERPAYMENTS TO DEPOSITORS FOR LOW GRADE BULLION

On September 23, 1958, the Director of the Mint, in order that there should be a clear understanding with respect to the Mint's continuing position regarding assaying, issued the following statement to all Mint Assayers:

"In view of the fact that several of the Assayers at Mint Field establishments are recent appointees, I requested the staff to review official Congressional, Treasury, and Mint reports, documents, and files relating to the preparation and passage of the Mint Act of 1873, subsequent statutes, and changes in the Mint Regulations, relative to receipt and handling of deposits.

I enclose the report compiled, entitled "Origin and Effect of Legal Provisions governing Payments and Charges to Depositors, and Operative Wastages". This report reveals the clear intent of the Congress, and the continuing practice in the administration of the laws from 1873 to the present.

This review confirms that the laws intended to and do provide that necessary wastage of precious metal, incurred in refining a deposit, be borne by the depositor at the time of and in connection with the evaluation of the deposit for payment.

Therefore:

The Assayer is required to exercise judgment in evaluating determinations made on deposit samples, prior to establishing the assay figure to be reported as a basis for payment, so as to insure that no refining loss shall subsequently be borne by the government. In other words, the Assayer shall not report more gold and silver than can be recovered in the form of fine or coin bars; to do so would result in overpayment to the depositor, and loss to the government.

The Assayer shall recognize that he must likewise prevent the over-evaluation of semi-refined or partially processed intermediate products of the Mint's refining operations, such as mass melts, black gold melts, or any other melt requiring further processing."

Mr. Reddish stated in the recorded conference that it was the position of the Denver Mint that the proposed exercise of judgment could not be supported upon legal, scientific, logical or ethical grounds. Mr. Merrill, the Assayer, stated to the committee that no judgment was ever exercised in evaluating deposits in Denver, and that assays were reported on an arithmetical average.

- 2 -

Mr. Reddish took the position that deposits have been properly assayed at Denver, and delivered by the Cash and Deposits Division to the M&R Division. Further, since the M&R Division accepted the deposits, this proves that they were evaluated correctly and, therefore, there can be no shortage in the accounts.

The committee pointed out that no additional assay or check assay was made when the gold was transferred to M&R, and the gold was still in Mint accounts on the basis of the original assay. Further it was pointed out by the committee that if the original assays were erroneous, then any reassays made at Settlement time on the same basis would also be erroneous and would not prove anything.

The Denver Mint mass melted a number of 1957-1958 deposits (the first mass melting since 1940) to check the assaying and weighing procedures. Below is a summary of mass melts for 1958, developed by the committee, which shows consistent overpayments to Josten Manufacturing Company, and other depositors of low grade bullion:

* Summary of Mass Melting Operation - April 1958

Description	Gross Ounces			Gain in Gross Weight	Gold Fine Ounces		Gain (+) or Loss (-)
	Book Weight	Actual Weight			Book Weight	Mass Weight	
Mass 1	Josten	8,493.74	8,493.93	0.19	3,467.847	3,462.772	- 5.075
2	Josten	8,244.46	8,244.63	0.17	3,433.518	3,421.360	- 12.158
3	Josten	7,994.08	7,994.28	0.20	3,342.272	3,329.424	- 12.848
4	Josten	8,156.88	8,157.06	0.18	3,395.818	3,393.158	- 2.660
5	Josten	8,131.36	8,131.56	0.20	3,446.550	3,444.987	- 1.563
6	Josten	8,233.91	8,234.15	0.24	3,394.814	3,392.871	- 1.943
7	Josten	7,962.08	7,962.30	0.22	3,251.639	3,247.461	- 4.178
8	Josten	8,253.95	8,254.18	0.23	3,428.692	3,428.003	.689
9	Josten	8,129.81	8,130.04	0.23	3,332.526	3,329.880	- 2.646
10	Josten	8,075.78	8,076.01	0.23	3,369.230	3,365.039	- 4.191
11	Josten	8,268.79	8,269.04	0.25	3,463.921	3,464.463	+ .542
12	Josten	8,255.34	8,255.59	0.25	3,416.878	3,415.682	- 1.196
13	Josten	8,078.10	8,078.35	0.25	3,297.777	3,295.700	- 2.077
14	Josten	8,202.66	8,202.88	0.22	3,393.631	3,389.227	- 4.404
15	Josten	8,331.49	8,331.74	0.25	3,408.955	3,404.417	- 4.538
16	Josten	8,112.90	8,113.16	0.26	3,350.278	3,346.754	- 3.524
17	Josten	7,502.06	7,502.30	0.24	3,152.212	3,148.265	- 3.947
17A	Clean up (1-17)	-----	-----	-----	-----	53.793	+ 53.793
		138,427.39	138,431.20	3.81	57,346.558	57,333.256	- 13.302

* All statistics showing gains and losses are based on Denver weights and assays.

<u>Description</u>	<u>Gross Ounces</u>		<u>Gain in Gross Weight</u>	<u>Gold Fine Ounces</u>		<u>Gain (+) or Loss (-)</u>
	<u>Book Weight</u>	<u>Actual Weight</u>		<u>Book Weight</u>	<u>Mess Weight</u>	
Mass 18 Golden Cycle	8,114.23	8,114.43	0.20	6,876.430	6,869.257	- 7.173
19 "	7,924.93	7,925.10	0.17	6,742.826	6,736.256	- 6.570
20 "	7,696.71	7,696.90	0.19	6,626.699	6,620.177	- 6.522
21 "	7,832.94	7,833.14	0.20	6,676.659	6,672.802	- 3.857
22 "	8,354.03	8,354.26	0.23	7,075.522	7,066.639	- 8.883
22A Clean up (18-22)	-----	-----	----	-----	27.020	+ 27.020
	39,922.84	39,923.83	0.99	33,998.136	33,992.151	- 5.985
Mass 23 Bald Mountain	7,964.29	7,964.45	0.16	3,452.139	3,449.484	- 2.655
24 "	7,543.66	7,543.83	0.17	3,368.686	3,358.170	- 10.516
25 "	7,462.72	7,462.90	0.18	2,764.599	2,761.783	- 2.816
25A Clean up (23 - 25)	-----	-----	----	-----	15.592	+ 15.592
	22,970.67	22,971.18	0.51	9,585.424	9,585.029	- 0.395
Masses 26 to 28, 157 bars newly mined gold	24,521.10	24,522.56	1.46	21,785.068	21,790.314	+ 5.246
Mass 29, 16 bars from Idarado Mining Co.	8,010.14	8,010.37	0.23	4,517.821	4,530.736	+ 12.915
Mass 30, 37 bars newly mined gold, part Idarado Mining Co.	4,070.85	4,071.20	0.35	2,192.131	2,200.896	+ 8.765
Masses 31 to 32, 274 bars scrap jewelry	12,308.53	12,311.18	2.65	5,850.895	5,856.985	+ 5.890
Mass 33, 19 bars, 17 from French Creek Mining Co. and 2 from others	7,012.05	7,012.31	0.26	661.190	660.443	- 0.747

<u>Description</u>	<u>Gross Ounces</u>		<u>Gain in Gross Weight</u>	<u>Gold Fine Ounces</u>		<u>Gain (+) or Loss (-)</u>
	<u>Book Weight</u>	<u>Actual Weight</u>		<u>Book Weight</u>	<u>Moss Weight</u>	
Moss 34, 29 bars of newly mixed gold	1,793.44	1,793.75	0.31	1,613.615	1,613.975	+ 0.363
Moss 35, 46 bars of dental scrap	553.93	554.34	0.41	401.436	401.768	+ 0.332
Totals	259,990.94	259,601.92	10.98	137,952.274	137,965.356	+ 13.082

Note - A final clean up bar containing 2.325 fine ounces of gold was disregarded as it was not applicable to any one moss melt.

It will be noted from the summary of moss melts that had moss melts Nos. 29 and 30 been disregarded there would have been a net loss on the 1958 moss melts. The committee is of the opinion that melts 29 and 30 should be excluded in considering this problem, since the gain of 21.680 fine ounces, or 3.231 ounces per 1,000 fine ounces is excessive, and indicates to the committee that an error was made in the original determination of the gold content of one or more deposits included in these two moss melts.

It is apparent from the above that the Director's statement and requirements of law were not being observed with respect to low grade bullion during the period when the deposits were paid for, July 1, 1957 - March 31, 1958, thus confirming statements by Mr. Reddish and Mr. Merrill that no judgment is used in the Denver Mint in evaluating deposits.

The committee now knows that the Cash and Deposits Division had the same information developed by the committee on moss melts, and that this information has been available to Mint officials since May 1958. With this information available to him it is difficult to understand Mr. Reddish's statement to the effect that he was not aware of any overpayments to depositors. (See page 1 of Exhibit No. 1.)

On the basis of this review it is obvious that Denver will continue to overpay depositors of low grade bullion until judgment is exercised in evaluating deposits as required by law and by the directive issued by the Director of September 23, 1958.

EXHIBIT NO. 4

CHANGE IN ASSAYING AND WEIGHING PROCEDURES,
IN FAVOR OF DEPOSITORS, SUBSEQUENT TO 1940

During the conference Mr. Reddish took the position that since the refinery had operated for 20 or 30 years prior to 1955 without a serious loss it was evident that Denver's assays were reported properly. The committee pointed out that during these years a large portion of the material put through the refinery was received from other Mint offices where judgment was exercised in evaluating deposits.

Throughout the conference Mr. Reddish stressed the point that Denver did not exercise judgment in evaluating deposits and that there had been no change in weighing and assaying procedures as far back as the mid-1920's.

The committee felt that any change in weighing and assaying procedures could be detected only by comparing results of mass melts for the various years. An analysis was made of mass melts for fiscal years 1935, 1936, 1937, 1940 and 1958. No mass melts were made between 1940 and 1958 so no conclusion can be reached with respect to changes in procedures during the individual intervening years.

Mass melting is the melting of a number of deposits, sometimes up to 200 or 300 deposits, in one pot and casting a smaller number of larger bars (16 to 20). Dip samples as well as chip, or drill, samples are taken from each melt and an assay determination made as to the gold and silver content of the new bars. These results can be compared with the gold and silver actually paid for to see how the Government is coming out on its bullion purchases. This procedure has long been used throughout the Mint Service as a check on weighing and assaying procedures.

Summarized below are the results of mass melting for the years 1935-58:

Comparative Results of Mass Melting

Fiscal Year	Book Weight Ounces	Gain in Weight Ounces	Gain per M ounces Melted	Gold Fine Ounces		
				Book Weight	Gain in Weight	Gain per M ounces Melted
1958	259,590.94	10.98	.042	137,952.274	15.407	.1117
1940	12,030.30	4.60	.382	7,175.523	4.898	.6826
1937	100,829.02	39.03	.387	55,196.810	52.909	.9586
1936	131,216.11	27.64	.211	65,672.636	70.022	1.0662
1935	161,637.97	53.74	.332	71,677.797	*37.835	.5278

*Does not include final clean-up bar, which would increase gain.
Record of clean-up is not available.

It will be noted that in 1937 the gross weight of the make-up, that is the weight of all the deposits going into the mass, before melting, gained .387 ounce per 1,000 ounces over the weight paid for, while in 1958 the gain was .042. Also in 1937 there was a gain of .9586 fine ounces of gold for each 1,000 fine ounces paid for as compared to .1117 in 1958.

Comparison of the mass melts clearly indicates that there has been a substantial change in weighing and assaying procedures between 1940 and 1958. In order to protect the interest of the Government the committee's recommendations Nos. 2 and 10 should be put into effect immediately.

MANIPULATION OF GRAINS ACCOUNT IN ORDER TO PLEASE A LARGE
DEPOSITOR WITH THE AFTER MELTING RESULTS OF HIS DEPOSITS

During the tape recorded discussions, Mr. Miller raised a question regarding the handling of Homestake deposits. The Homestake Mining Company deposits large quantities of fine gold with the Denver Mint.

The committee discussed the handling of Homestake deposits, including Homestake grains, with Messrs. Philippus and Johnson and was told that Homestake's deposits are melted in special crucibles which are held for Homestake only, and used for no other deposit. They also stated that Homestake is very fussy about the gross ounce apparent melting loss, on successive deposits, and a method has been used of holding back grains from some deposits, and using these grains on other deposits, in order to avoid incurring the displeasure of the depositor. For example, assuming that the normal melting loss on a deposit is one ounce, the following practice might be followed:

Deposit No. 1 - If the actual melting loss on this deposit was only one-half of an ounce, they would withhold one-half ounce of grains in order to have the deposit operation appear normal; on Deposit No. 2 - if the melting loss on this deposit was greater than normal, amounting to $1\frac{1}{2}$ ounces, the one-half ounce which had been held back from the first deposit would be added to this deposit so that the net result would be a melting loss of one ounce on each deposit.

This manipulation was accomplished in the grains account. The committee felt that this method of handling deposits was highly irregular and not in accordance with Mint regulations. It was therefore recommended that each deposit be handled as an individual transaction, and that the practice of withholding metal from one deposit and using it for another be discontinued. The committee also stated that in those occasional instances where there was a true gain after melting, which could occur when the same crucible was used for one depositor only, that the gain should be so reported as it could easily be explained for technical reasons.

The committee found no indication of irregularities in the payments for Homestake deposits. However, the manipulation of the deposit grains account, and the use of grains to adjust the after-melting weight of deposits can eventually lead to the loss of control over operations, and abuses, such as found by the committee.

RECEIVED



OFFICE OF
DIRECTOR OF THE MINT
IN REPLYING QUOTE INITIALS

TREASURY DEPARTMENT
WASHINGTON 25

DEC 8 1958

SUPERINTENDENT
U. S. MINT AT DENVER

December 5, 1958

Superintendent
United States Mint
Denver, Colorado

Dear Madam:

Enclosed is a report submitted by the committee appointed by me on September 19, 1958, to review deposit receiving procedures and related problems at the Denver Mint. This report covers certain aspects of the committee's investigation. I approve the report.

Please advise me of action taken to implement the committee's recommendations, together with any comments you have regarding the report.

Copies of the report are enclosed for Messrs. Reddish, Merrill, LaFollette, Miller, Judge, Gray and Philippus.

Very truly yours,

Director of the Mint

Enclosures

Mr. Reddish



OFFICE OF
DIRECTOR OF THE MINT

IN REPLYING QUOTE INITIALS

TREASURY DEPARTMENT

WASHINGTON 25

December 5, 1958

Superintendent, United States Mint, Philadelphia, Pa.
 Superintendent, United States Mint, Denver, Colorado
 Officer in Charge, United States Mint, San Francisco, Calif.
 Superintendent, United States Assay Office, New York, N. Y.
 Officer in Charge, United States Bullion Depository, Ft. Knox, Ky.

Dear Sir:

On September 23, 1958, a letter was sent to each of the Mint institutions receiving deposits of gold and silver, in which a restatement of the legal requirements in receiving deposits was made. No question was raised by any institution other than Denver. A committee was sent to Denver to review deposit receiving practices.

As a result of certain developments in the meeting with my committee in Denver it was decided that an Assayers' Conference would be held. Such Conference, attended by Mr. Howard Johnson, Assayer at New York; Mr. Paul Dowd, Assayer at Philadelphia; Mr. Richard Merrill, Assayer at Denver; and Mr. John Carr, Officer in Charge (Assayer), U. S. Mint, San Francisco, was held this week, and revealed that the proper practice was completely understood and was being followed in each of the institutions other than Denver. The Denver Assayer now understands and will comply with the contents of the letter of September 23rd. For his benefit, however, and to assist him in following the proper method, the following statement will be incorporated in the regulations:

Page 13 - Reporting of Bullion Assays. Add to Line 3:

"In the valuation of unrefined bullion the Assayer shall not report more gold or silver than can be recovered in the form of Mint fine or coin bars."

Page 9 - Sec. 5 - Line 8:

"The Head of the Cash and Deposit Division shall, upon the advice of the Assayer and Superintendent of H & R, make a just and proper allowance on a base bullion deposit, prior to recording the after-melting weight, if such deposit has adhering substances, slag, or an oxidized surface. The allowance made shall be recorded on the Melter's Deposit Card."

Letter to All C. I. G. S.

- 2 -

Dec. 1, 1958

Forthwith all assaying and weighing shall be made in accordance with my letter of September 23, 1958.

Very truly yours,

Director of the Mint.



OFFICE OF
DIRECTOR OF THE MINT
IN REPLYING QUOTE INITIALS

TREASURY DEPARTMENT

WASHINGTON 25

December 8, 1958

RECEIVED

DEC 10 1958

OFFICE OF
SUPERINTENDENT
U. S. MINT AT DENVER

Superintendent,
United States Mint,
Denver, Colorado.

Dear Madam:

The tape recordings which Mr. Reddish made of the first four days of my Committee's conferences at your institution have been transcribed. The transcriptions have been proofed by play-back of the recordings and have also been proofed for typographical errors.

Under separate covers, I am sending 8 copies of the transcription, one for you and one for each of the following: Mr. Reddish, Mr. Merrill, Mr. Philippus, Mr. LaFollette, Mr. Judge, Mr. Miller and Mr. Gray.

Although, as I stated above, the transcript has been proofed, there is a possibility that some of the words may have been misheard. I am, therefore, also under separate cover, registered, returning the tapes themselves. They are to be kept by you in a secure place, and under no circumstances to be destroyed.

If you have them played back, and find any substantive errors in our transcription, please advise us immediately.

Very truly yours,

Director of the Mint.

Mrs. Alma K. Schneider, Sup't.

December 10, 1958

Chas. M. Miller

Judgement standards for weight and assay of deposit bars

The Director's letter of December 5, 1958 refers to his previous letter of September 23, 1958 covering the legal aspects of deposit receiving practices and advises that certain statements pertaining to such practices will be incorporated in the regulations.

Since you have chosen to delegate to me the responsibility for establishing the initial standards on the basis of which the required judgement will be exercised in determining both the pay weight and the reported assay for deposits, I submit the following recommendations:

After Melting Weight:

When the melted bar is completely free of oxide discolorations and surface imperfections which may contain such foreign matter as slag accumulations, charcoal inclusions or iron, the bar shall be weighed to 1/100 of an ounce without deductions. When the bar shows any indication of oxide discoloration or foreign matter content, particularly in the case of holes the bottoms of which are not visible, the weight of the bar shall be reduced by an amount equal to the estimated weight of the foreign matter involved. When indentations or holes the bottoms of which are invisible are present, at least 0.05 of an ounce shall be deducted, the exact deduction depending upon other related conditions.

Likewise, a deduction for both the estimated weight of foreign matter included with the grains and the inevitable assay deficiency shall be made in the "grains weight".

Assay Reporting:

The judgement to be exercised by the Assayer when reporting assays for deposits and semi-refined or partially processed intermediate products shall depend upon the base content and the presence or absence of such deleterious metals as zinc or arsenic.

When the base content is 400 or more parts per thousand, the arithmetical average shall be reduced by $\frac{1}{4}$ part. When the base content is less than 100 parts per thousand, no correction shall be made. A correction of $\frac{1}{2}$ part shall be made when the base content is between 100 and 400 parts per thousand.

While this exercise of judgement involving a deduction from the arithmetical average is a deduction from the theoretical assay, it is not in reality a deduction from the true assay. Since neither the science of sampling nor the science of assaying base bullion is an exact science, the arithmetical average is not a definitely exact assay for this type of bullion. This fact was definitely established by the first 17 mass melts of high base material included in the recent mass melting program.

It must be understood that these recommendations for initial standards for exercising the required judgement in connection with the evaluation of deposits for payment is preliminary in nature and, therefore, subject to future alterations on the basis of actual mass melting results.

It should also be clear that any gains established as the result of future mass melting when the refinery is not in operation will not be available for the purpose intended - that of covering necessary wastages of precious metals, incurred in the refining of deposits.

Mr. Reddish

Dec. 11, 1958

From Philippus,

GRAINS BARS

Net gains previously reported to you (March thru Sept. 1958) - - 1.765 Tr.Oz.

October - Needed by M & R - - - 14.982
Actual gold content 15.923
Gain .941

.941

November - Needed by M & R - - - 11.979
Actual gold content 12.367
Gain .388

Gains (March thru November 1958 - F.Yr. 1959) - - - - - .388
- - - - - 3.094

Excerpts from Mass Melt 1958
Mine Bars

Dec. 1958

No.	Melt No.	orig weight	Mass weight	Gain %	Average Gram Per Bar
29	26	830944	830980	36	.
49	27	811782	811826	44	.
66	28	809384	809450	66	.
<hr/>				146	.009563
205	31	809642	809828	186	.
72	32	421211	421290	79	.
<hr/>		1230853	1231118	265	.0595367 (.0095667)
16	33	701205	701231	26	.0162500
29	34	179344	179375	31	.0106896
45	35	55393	55434	41	.009111
<hr/>				509	.0996086
511					

Mass Melt Average Gains Per Bar

1935 -- 8,671 bars - 54.24 Gr. Oz. Gain - - - Average per bar .00625 Tr.Cz.
1936 -- 6,958 bars - 27.64 Gr. Oz. Gain - - - Average per bar .003972 "
1937 -- 4,887 bars - 39.03 Gr. Oz. Gain - - - Average per bar .0079864 "
1940 -- 559 bars - 4.60 Gr. Oz. Gain - - - Average per bar .008228 "
1958 -- 836 bars - 10.98 Gr. Oz. Gain - - - Average per bar .01313 "

(Note:
If small misc. bars of 1958 mass melts are
considered only, the following average
is obtained) See attached sheet

511 bars - 5.09 Gr. Oz. Gain - - - Average per bar .0996086 "
∴ .094736

1958 Mass Melts 31,32 & 35 only

December 16, 1958

MEMORANDUM

TO : Charles M. Miller, Superintendent
Melting and Refining Division

FROM : Alma K. Schneider, Superintendent

SUBJECT : Bureau report on receiving and weighing deposits
and related problems.

All officials who have information with respect to handling de-
posits at this Mint are being asked to prepare a memorandum to
assist us in making a reply to the report recently received from
the Bureau of the Mint.

As Superintendent of the Melting and Refining Division it has been
your responsibility, as a protection of the institution's values,
to make sure insofar as possible that as much bullion is taken into
your accounts as depositors are paid for. All of the bullion which
has been purchased by this Mint during the last thirteen years has
been receipted for by your division.

Your division also maintains the only account for deposits, which
is broken down to determine the amount of bullion due from deposit
bars, grains, and assay samples. Since your division maintained
the only grains account in the Mint and therefore alone had infor-
mation as to fluctuations between the account and the grains bars
delivered to you, you are our only source of information on many
of the matters respecting grains.

We would like to have you feel free to furnish any information you
can which you think will make our report more complete. However,
we should like to have specific answers to the questions on the
attached sheets.

Alma K. Schneider
Superintendent

GRAINS

1. Upon what basis did you approve the monthly and yearly overages and underages which had existed in your grains account since you became the head of the Melting and Refining Division at Denver?
2. Did you have any reason to think the fluctuations during this period were due to overpayments or underpayments to the depositor?
3. When, if ever, did you report these fluctuations officially to the Superintendent or head of the Deposits Division of this Mint? If you did not officially report the fluctuations, why not?
4. Why did you refrain from reporting the 25 ounce difference in the grains bar in July 1957, and then wait until the seven month difference amounted to 45 ounces before making an official report?
5. Why did you report this incident, but none of the other fluctuations in the grains account?
6. What, if anything, distinguishes the fluctuations in the grains account in the fiscal year 1958 from the monthly and annual ones which had previously occurred during your tenure at the Denver Mint?
7. Do you now disapprove of fluctuations in the grains account, and if so, why?
8. What do you consider a reasonable and proper fluctuation monthly in the grains account?
9. Were you aware that "K" grains have been added to the grains bar for many years?

10. If not, what did you consider to be the source of the grains in the grains account, such as a 97 ounce gain in fiscal year 1950?
11. What did you consider to be the reason for the various deficiencies in the grains account, such as the one for the fiscal year 1957?
12. What suggestions do you have for improving the handling of grains and accounting for them?

MASS MELTING

13. Do you agree with representatives of the Bureau that mass melting has long been recognized in the Mint Service as a means of checking upon the accuracy of weights and assays on deposits?
14. Why didn't you mass melt deposits from 1946 to 1958?
15. Were the deposits mass melted in 1958 the same type as those mass melted previously?
16. In determining the results of the mass melting for 1958, did you give consideration to the bullion which escaped into sweeps and into the cottrell precipitator? If not, what was your reason?

GENERAL INFORMATION

17. Do you have any other pertinent information which should be incorporated in our report?

RECEIVED

DEC 22 1958

OFFICE OF
SUPERINTENDENT
U. S. MINT AT DENVER

December 18, 1958

Air Mail

Superintendent
United States Mint
Denver, Colorado

Dear Madam:

Reference is made to your letter of December 15, 1958, regarding preparation of a reply to the "Report on Receiving and Weighing Deposits and Related Problems", dated December 3, 1958.

It is requested that each official or employee referred to in that report prepare an individual reply, to be signed by him, covering each section of the report where he is referred to. For example:

1. Mr. Reddish is referred to on pages 1 and 4 of Exhibit 1, page 3 of Exhibit 2, and several other places in the report. Mr. Reddish should prepare a reply, to be signed by him, covering each section of the report where he is referred to.
2. Mr. Miller is referred to on page 1 of Exhibit 1, and perhaps elsewhere. He should prepare a reply, to be signed by him, covering each section of the report where he is referred to.
3. Mr. Philippus is referred to on page 4 of Exhibit 1, and perhaps elsewhere. He should prepare a reply, to be signed by him, covering each section where he is referred to.

In submitting the signed statements of each individual, as referred to above, you may desire to submit your over-all comments regarding the entire report. Please also indicate the action taken to implement each one of the committee's recommendations.

I will appreciate receiving your reply at the earliest possible date.

Very truly yours,

(Signed) WM. H. BRETT

Director of the Mint

Copies to:
Mr. Miller
Mr. Philippus

December 19, 1958

MEMORANDUM

TO : Mrs. Alma K. Schneider, Superintendent
FROM : Richard L. Merrill
SUBJECT : Memorandum on Handling Deposits

I entered the Mint Service in 1934 as a Junior Assayer, was promoted to Principal Assayer's Assistant and then to Assistant Assayer in 1944. I served in that capacity until August 1958 when I received the appointment as Assayer.

During that time I was connected with the assaying of bullion deposits. Never was there any change or tightening of assaying procedures or results. The depositor was paid the same in 1934 as he was in 1958.

There were never any requests made and I have never asked that any assay be made which would favor the depositor. It was always understood that the methods which we employed gave the depositor a fair return but that all fractions or any errors in method accrued to the benefit of the Mint and were sufficient to enable recovery of the bullion paid for. Results of comparable bullion in mass melts in 1958 and in 1935, 1936 and previous years, show this result.

The bullion was assayed to the best ability of the men involved, and then paid for according to the regulations.

I was always led to believe that the above practice was followed by all the other Mint institutions, and until recently had never heard of making reductions to provide against a loss in the Refinery.

In the report of the Director's Committee, received December 8, 1958, the statement that depositors of low grade bullion have been overpaid is erroneous. The proof stated in the report is the comparison of mass melts made in 1935, 1936, 1937 and 1940, with the mass melts made in 1958.

The mass melts of 1935, 1936, 1937 and 1940 were small deposits under 100 ounces in weight, of low gold content and having many different kinds of base material (21,080 bars making 81 mass melts). 405,713.40 ounces book weight of these mass melts produced a gain in weight of 125.01 ounces, and a gain of 165.664 ounces in gold content. The only material melted in 1958 comparable with the above mass melts were melts 31, 32 and 35 (320 bars - 3 melts). These resulted in 12,862.40 book weight, 3.06 ounces gain in weight and 6.222 ounces gain in gold

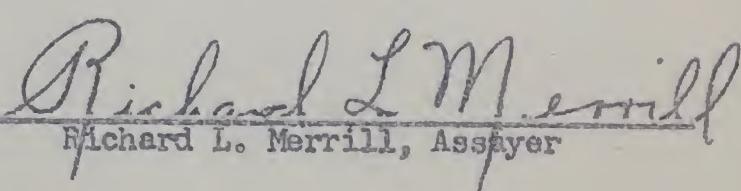
content. These figures were projected to the gross weight figure of the mass melts of 1935, 1936, 1937 and 1940, gave 96.52 ounces gain in weight and 196.254 gain in gold content. Certainly using comparable bullion gives more accurate figures than the report states.

In the past we did not mass melt large bars with suitable base content, as was done in 1958. There can be no comparison of large melts of such bullion with the mass melts of 1935, 1936, 1937 and 1940.

In assaying small bars of high base content, the depositor is probably underpaid. This is due to the deleterious base materials which may cause small errors in the assay. Such errors always accrue to the benefit of the Mint and never to the depositor. In our methods high results are almost an impossibility.

In checking the mass melts of 1935, 1936, 1937 and 1940, many losses in individual melts in gold content are noted as well as gains, some much higher or lower than the average gain or loss. Then a total result is taken for comparison. Never in the report is it suggested that where there is a gain larger than usual, it be dropped out of consideration as in the case of melts 29 and 30 of 1958.

If it is now necessary that the Refinery be given an additional margin on the better types of bullion than is provided by reporting to the lower $\frac{1}{4}$ of one thousandth, this will be provided by the Director's amendment of December 5, 1958. However, the statement in the report that since 1940 there has been a change in assaying procedures in Denver to favor the depositor is not correct. We follow the same methods and procedures now as were in effect in 1934.


(Signed) Richard L. Merrill, Assayer

December 22, 1958

MEMORANDUM

TO : Mrs. Alma K. Schneider, Superintendent
FROM : Walter J. Judge, Assistant Superintendent
 Coining Division
SUBJECT : Report of Receiving and Weighing Deposits, and Related
 Problems

I received a temporary appointment as Jr. Assayer on December 17, 1928, a probational appointment as Jr. Assayer on May 1, 1929, designation changed February 1, 1941, to Principal Assayer's Assistant, then to Assistant Assayer, January 15, 1943; was Acting Assayer for a period of six months or more during 1943; appointed Assistant Superintendent of the Melting and Refining Division August 16, 1944. Served in that capacity and also as Acting Superintendent of Melting and Refining Division until December 1, 1946, at which time I received appointment to position of 1st. Assistant Superintendent of the Coining Division, which position I have held to date.

The only connection I have had with deposits and deposit procedures, outside of the assaying and sampling, is acting as Assayer's Calculator and maintaining the deposit abstract for a year or so in 1929 and 1930.

During all of my assaying experience at the Denver Mint I have never received a request to tighten up on the assaying of deposits so that the depositor would be paid for more material than he had been paid for previously, nor have I ever done so. All assays have been reported on a straight arithmetic average.

To the best of my knowledge, the established practice of weighing and assaying of deposits has been sufficient to provide a working margin for the Refinery to operate on without a loss.

I have never heard a complaint from the Superintendent of the Melting and Refining Division to the effect that the assays on Denver material were too tight for refining operations.

It would be enlightening to have a breakdown of the amounts of different classifications of material processed through the Refinery for a period of years. Denver deposits, as well as Seattle and New Orleans redeposits, have been processed through the Refinery for a good many years during which time the Refinery has operated with a gain.

In my recollection the check assays on dip samples sent by Seattle with their redeposits were always close, showing that their assays were reported on an arithmetic average with no change in the scientific determination.

(Signed)

Walter J. Judge

Walter J. Judge,
Assistant Superintendant,
Coining Division

To; Mrs. Alma K. Schneider, Superintendent
From; W. S. Johnson, Deposit Melter, Cash & Deposits Division
Subject; Deposit Receiving Procedure

Since there has been a general review of the deposit procedure in this division, which includes the work covered by my section, I wish to make the following statements.

I entered the mint service on August 31, 1934 and was assigned to the Deposit Melt Section in 1938. Except for my military service between December 1942 and October 1946 I have been with the Mint during this entire time. After the retirement of Mr. Robert Clark on Dec. 18, 1946 I was promoted to the position of Deposit Melter, which corresponds to the general title of Foreman. Previous to my appointment, I assumed charge of the section when Mr. Clark was on annual leave.

In my work, all deposits are weighed to me before melting, and after melting is completed I weigh the bars back to the receiving clerk. The weighing procedure has not been changed during the period of time mentioned. Weighing has been conducted in a most exact manner in accordance with the regulations, and a swing of the needle is taken on each deposit to protect the government against any overpayment.

I served under Messrs. Stedward and Clark as my immediate superiors, who instructed me in the physical operations, and under Messrs. Spencer, McGinness and Parry as heads of the division, and am presently serving under Mr. Philippus, under whom I have served since the middle of 1963. I can say that at no time was I ever told to tighten up on the weighing procedures so as to favor the depositors.

As to the sufficiency of the weighing procedure to enable the Mint to recover all the bullion purchased, it has always been my understanding that all metal purchased was recovered by the Melting and Refining division. I have had no reason to suppose that the Mint's assaying and weighing procedures failed to produce such recovery. So far as I know, no one in the division in which I am employed has ever made any effort to violate the laws and regulations in regard to deposits or otherwise. A scrupulous effort has consistently been made to follow all the rules.

As to the monthly grains bars, these have been made up according to a procedure in vogue dating prior to my association with the Mint, and in which method I was instructed by my superiors prior to assuming charge of the Deposit Melt Room. I understand this account in the M & R division has fluctuated monthly without any alarm being expressed as to being over or short. The only information which has come to me from time to time is when I have asked for information regarding this account from some M & R employees, but such information has not always been available to me.

W. S. Johnson

To: (Mrs.) Alma K. Schneider
Superintendent
From: Glen M. Woodrow

Date: December 22, 1950

March 12, 1934 I entered service at the U. S. Mint, Denver, Colorado. The second week, the responsibility for the weighing, receiving, computing and storing of deposits and re-deposits transferred by the Weigh Clerk to the M & R Department was given me. From that time until July 1941, when I was promoted to Assistant Accountant and Auditor, the above were some of my duties. Since the latter date these duties were performed by Mr. Arnold and upon his retirement by Mr. Morris. The period, March 1934 through June 1941, deposits were weighed in the same careful way and to my knowledge I never accepted a bar short weight.

Fluctuations in the grains account, to my knowledge, have occurred each month since I started with the M & R. Reports on these fluctuations were made to the Superintendent of M & R.

Grains account fluctuations for July 1957 were reported to the Superintendent, M & R in August 1957, as the grains are melted into a bar, weighed, accepted and computed after the close of deposits for the previous month. Grains account balances were reported in August 1957 and each succeeding month to the Superintendent, M & R.

Glen M. Woodrow

December 22, 1958

TO: Mrs. Alma K. Schmeider, Superintendent
FROM: A. L. Philippus, Head, Cash & Deposits Division
SUBJECT: Bureau Report of December 5, 1958

(1) "Recommendations - Page 2" "both M & R and Cash & Deposits Divisions to review grains account at end of each month . . ."

Such a system should be installed at the earliest possible date. I regret to note that the Committee offered no definite suggestion as to the system to be installed. I believe the M & R should report to the Cash & Deposits Division, at the end of each month, their findings, so that the latter division can maintain a close comparison of the grains account as carried in the M & R and the findings in the Cash & Deposits Division. In the past the Cash & Deposits Division has been entirely in the dark as to the status of this account, and failure on the part of the M & R to complain would naturally lead to the conclusion that all was well with this account. Sole responsibility of this account rests in the M & R division. However, a monthly report has been requested from that division and a system has been set up in this division which will give approximate monthly computations..

(2) "Cash and Deposits" (Recommendations on page 2 of Report)

"Cash and Deposits Division employees should do a more careful job of weighing deposit bars, using judgment in making allowances and providing swings in order to prevent overpayments.

There is some conflict between this provision and that contained in the Director's Letter of December 5 (same date as the report), which provides for the Superintendent of the M & R and the Assayer determining allowances.

The latter system is being put into effect however.

In this connection, the following determinations are being presented, showing gains on deposit bars based on mass meltings for several years;

Year	No. Bars	Gross Gain	Avg. Gain per bar
1936	8,671	54.24	.00625 Tr. Oz.
1938	6,959	27.64	.003972
1937	4,887	39.03	.0079864
1940	559	4.80	.008228
(S)	1958	838	.01313

(S) Since the previous mass meltings were composed only of bars weighing less than 100 ounces each, and if we separate similar bars from the gross 1958 mass melting, the following result is obtained.

1958 511 5.09 .0986088 (Practically .01 per bar)

In any event, the gains per bar on either the gross melting of 1958 or on the basis of similar material worked on in the previous years listed, is greater than for those years. The implication that there has been "tighter" weighing in this division in recent years would therefore appear to be erroneous.

"Recommendations Nos. 3 & 8". These two tie in together.

In order to avoid any overpayment for dirt, slag, etc., the practice of cleaning up the grains by making them into a clean button was instituted. Results have been carefully tested and the grains account has shown gains. It would appear that the slight work involved in this operation fully justifies the protection against overpayment by the government. In fact when Mr. Neisser first examined these buttons he was quite impressed with the procedure. We do not know why his opinion was reversed. It would seem that a method of guess-work as to grain weight would be far less reliable.

As to the grains account, it appears that the exact operation has been fully understood only by few. From practical standpoint, the gold content of the grains, plus samples, plus bar weights, should equal the gold content paid for. We now find that the actual grains bar account has fluctuated from year to year, sometimes being over and sometimes being deficient, but never exactly as paid for. These differences have appeared on annual Settlement reports from the M & R to the Committees, and have apparently been sanctioned by the Settlement Committees, the Bureau of the Mint, and the General Accounting Office.

Since the account is carried solely in the M & R Division, it has apparently been considered an "over and short" account, similar to such accounts carried in banks, with official approval. How much tolerance does the Bureau recommend as leeway in this account?

The following variations have been disclosed in past years:

End of Fiscal Year 1939	- deficit	= 9.846 Tr. Oz.
July "	"	8.431
Aug. "	Q	6.783
Sept. "	"	3.278
Four months - Total deficit		<u>25.340 Tr. Oz.</u>

Fiscal Year 1939 ended with a deficit of 8.991 troy ounces, while 1957 ended with a deficit of 4.248 ounces. Large surpluses resulted at the end of the following fiscal years:

1950 - 97.444 Tr. Oz.
1949 - 62.393
1947 - 45.444
1948 - 43.273

August, September, October and November of 1948 each ended with the following deficits: 4.171, 1,789, 4,917, 9,236. K Grains have been added to the regular grains during every year for which records are available.

"Recommendations" (4) (5) (6) (7) All these are related.

We now follow the practice of depositing end-of-the-month "K-Grains" into a Surplus Bullion Recovery Bar, in accordance with the expression of the Committee while here.

Substantial quantities of K-Grains have been added in the past, a few illustrations being:

1948 - - - 211.79 Tr. Oz.
1949 - - - 215.58

"Recommendations" (9) This ties in with Exhibit 5.

"Practice of adjusting Homestake after-melting weights with ensuing deposits."

This Exhibit 5 is something of a mystery to us. I have discussed this matter with Mr. Johnson (Deposit Melter) and he informs me that at no time has such a practice been followed. Apparently the Committee misunderstood the facts here. While he admits that on rare occasions, when the after-melting weight of a Homestake deposit has exceeded the before-melt weight, a small portion of the grains has been removed, this portion having been added to the K-Grains and not to any subsequent deposit. However, this practice has been eliminated and any excess in after-melting weight is being reported for the benefit of the depositor.

Exhibit 1.

Exception is taken to the definite statement "because of over-payments" since this is a "conclusion arrived at by the Committee and not a proven fact. Page 4 of this Exhibit (par. 5) admits the "shortage" as being "unexplained". Also on page 5 of Exhibit 1, par. 6, the statement is made that depositors "could" have been overpaid.

Page 6, Exhibit 1, par. 2, also stated: "it would be impossible to establish conclusively any particular depositor was overpaid for his grains", whereas page 7 (same Exhibit) states "the Committee concludes that the "shortage" in the grains account resulted from overpayments to depositors."

Exhibit 1, par. 6, also par. 1 & 2 of page 4.

Since the inclusion of the "K-Grains in the monthly grains bars has been a standard practice as far back as records and memory are available, it must have been well known to the Bureau Auditors who examine Mine Procedure periodically. Records available back to 1938 show these K-Grains being added. No system has ever been established in the Cash and Deposits Division whereby the grains have been computed, although the entire accounting system has been reviewed from time to time, also by the General Accounting Office. A complete survey was made in 1953 with numerous recommendations submitted under the Director's letter of January 5, 1954. No change was made in handling the grains in this division.

After the alleged "shortage" was reported by the Superintendent of the Melting & Refining Division on February 11, 1958 (7 months after the first deficiency was computed by that division) an intensive investigation was instituted by the Head of the Cash & Deposits Division in conjunction with the Assistant Superintendent. Various measures of protecting the grains from any contamination were instituted. The investigation covered considerable time. The only plausible explanation of the alleged "shortage" is that for some reason, spillage or otherwise, part of the regular grains became mixed with the K-grain material, and that they were subsequently recovered from that source as evidenced by a surplus in the grains account at the end of the fiscal year. Part of the K-Grains undoubtedly included these missing grains.

During the latter part of the fiscal year, separate assays of K-Grains from regular grains, revealed that the regular grains stood up, without any other material being added to produce the gold required. An analysis of the October grains made while the Committee was here, disclosed a gain of .941 troy ounce on the regular grains.

Exhibit 1, page 5, par. 3.

This paragraph is somewhat ambiguous in the wording "who explained the "shortage" occurred as described". If this means that the Committee explained the "shortage" as described, it is correct. If the word "who" refers to Philippus and Johnson, it is incorrect since neither of these two were in a position to confirm the said shortage claimed. The claim is made on the basis of M & R records.

Exhibit 2.

The practice of adding material to bars in certain instances where a slight drop in weight was found when transferring bars to the M & R has already been discontinued. It has, however, been noted that at times, drill particles, or burrs, remain in the hole drilled by the Assayer. These may fall out in handling bars, resulting in a slight drop in weight. The origin of this system probably started because of this.

Exhibit 1, page 5.

This shows (a) Grains paid for (b) Grains melted, and (c) approximate amount of Treasury surplus bullion totaling 484.84 ounces. This is arrived at by deducting the Book Weight of the Grains (740.16 oz.) from the total weight of the grains before melting, and ignores the fact that the gross weight of 1,226 oz. (before melting weight) includes gold coins which are always included in the grain bar before melting. Furthermore, an "estimate" of apparent K-Grains is made for the months of October 1957 and February 1958, i.e. 30.00 oz. and 75.00 oz.)

The footnote on this page admits that it would be difficult to establish the exact amount of fine ounces of gold contained in the K-Grains since the K-Grain fineness is unknown.

It is the firm opinion of those concerned with the grains in this division that any allegation that any laws have been violated is entirely erroneous.

As to any overtime devoted to the cleaning of the K-Grains, under the administration of Mr. Warren, Assayer, a jig used for this purpose, was dismantled. Mr. Warren was under the impression that a new piece of equipment would be acquired. However, due to lack of funds for this purpose this did not materialize. It was then decided to wash them by hand, which necessitated some overtime. This was part of the work of the employees of the Deposit Melt Room and considered more practical than to have such work interfere with the operation of deposits.

It might be pointed out that gold is continually going into the Cottrell System from the Deposit Melt Room to the Credit of the M & R. In fact the M & R has recovered gold from the Cottrell System when the Refinery has not been operating. Therefore, it may be advisable to give thought to working out a pro-rata system whereby part of this recovery will go to the credit of the Deposit Melt Room, thus crediting the Treasurer with the proper recovery proceeds from this division. The M & R presently is beneficiary of this recovery.

One more phase on the "K-Grains". The regulations require the depositor to be paid for all his gold, including "scrapings" from the crucibles. This poses the question as to whether the government actually is entitled to the "K-Grains". If this provision of the regulations were followed to its ultimate conclusion, recovery of the grains would greatly reduce the life of the crucibles, some of which cost as much as \$28.25. Therefore reasonable scrapings have been taken.

If the crucibles had been scraped to recover all the gold, the grains would have included considerable quantities of slag or graphite, with resultant damage to the crucible. As stated, this would introduce large quantities of low-grade material into the grains. An estimate could then only be made as to how much gold the grains contained.

Contrary to K-Grains in the grains bars being a loss to the government, K-Grain material has been a gain.

The employees in the Deposit Melt Room have apparently always considered K-Grains as belonging to the regular grains. There appears to be no definite line of demarcation as to when scraping of the crucibles should cease. K-Grain material then is material for which the depositor has not been paid, but would have been, had the scrapings been deeper.

A careful examination of the records available since 1958 shows no change whatever in procedure in the handling of all the grains in the division, and shows fluctuations from month to month and year to year. K-Grains have been added to the regular grains bars as time has permitted.

G. L. Phillips.
Head, Cash and Deposits Division

December 22, 1958

MEMORANDUM

TO : Alma K. Schneider, Superintendent

FROM : Bruce B. La Follette, Superintendent
Coining Division

SUBJECT : Comment on Report of Director's Committee on "Receiving
and Weighing Deposits and Related Problems, United States
Mint, Denver, Colorado."

I was a Junior Assayer in the Assay Department of the Denver Mint from February 1924 to October 1925. During that time I performed the duties now performed by a Principal Assayer's Assistant in connection with the receiving and assaying of deposits and the assaying of all types of material incident to Mint operations. I left the Mint Service in October 1925 and worked in the mining industry for seven and one-half years.

I was appointed Assayer of the Denver Mint in 1933, and served in that capacity until early in 1944 when I was appointed Superintendent of the Coining Division, and have served in that capacity ever since. During my tenure as Assayer I was, of course, responsible for assaying methods and the reports made.

I sat in on the discussions with the Director's Committee during the period September 29 through October 2, 1958, at your request, as a technical advisor because of my past experience in the Assay Division. These discussions concerned the receiving of deposits, weighing, assaying, refining and related matters. The Committee's report to the Director, with letter of transmittal dated December 5, 1958, was received by you and a copy handed me for any comment I would care to make.

In regard to the part of the report covering the handling of deposit grains, I have little comment. I have not had direct contact with these matters for nearly 15 years and my memory of detail is not clear. I remember assaying the monthly deposit grains bars and that adjustment had to be made for gains and losses in the grains account. My recollection is that this was done by adjusting the weight of the individual deposit grains during the month following the determination of the status of the grains account from the Melting and Refining records.

On page 3, Exhibit No. 1 in the tabulations of "Comparison of Grains Paid for and Grains Melted for the Fiscal Year 1958" the gain in gross ounces of grains melted over gross ounces of grains paid for is tabulated as the "Approximate Amount of Treasury Surplus Bullion Added." It is not necessarily so that all of the gain is Treasury Surplus Bullion added. The fineness of the grains of any given melt is almost invariably less than that of the bar. The only way this can be offset,

since the grains are not assayed separately, is to reduce the actual weight of the grains from each deposit by an amount sufficient to compensate for the lower fineness. This practice results in the gross weight of the monthly grains bar being greater than the accumulated book weight of the individual grains.

Conclusions No. 3 and No. 4 of the Committee report concern overpayment to depositors of low grade bullion and changes in assaying and weighing procedures in favor of depositors, subsequent to 1940. This was the area of the major part of the discussions with the Committee prior to their examination of the Denver Mint records.

The discussions developed the fact that no "Assayer's Discretion" has been exercised at the Denver Mint to adjust technically determined gold assays downward to insure that no refining loss would occur.

I wish to confirm that during my tenure as Assayer from 1933 to 1944 all gold assays were reported from technically determined results, the arithmetic average to the nearest $1/4$ part per thousand downward being taken. I know this was also the practice during 1924 and 1925 when I was a Junior Assayer, as the assay reports were completely prepared in the laboratory and taken to the Assayer for signature only.

It was always considered that the pick-up in gold as a result of averaging assays and reporting to the nearest $1/4$ point downward provided sufficient margin for the Refinery to operate without a loss. I was never requested to make a change in the assay determination or report either in favor of the depositor or in favor of the Mint. The problem never presented itself because the Refinery was having a satisfactory operation.

The Committee concluded from the results of the 1958 mass melts that there have been substantial changes in assaying procedures in favor of the depositor since 1940. I have talked with Mr. Merrill about this point and he assures me that there have been no changes in assaying and reporting procedures since I left the Assay Division in 1944.

I recall that during the 1930's, when I was Assayer, we had large numbers of high base industrial scrap deposits, many containing white gold alloys. We standardized the gold assay method used on these deposits to include all jewelry scrap deposits. Without going into technical detail I describe this method as involving the use of one-half the normal assay charge and adding proof gold to dilute the base, later deducting the weight of the proof gold before making the final calculation of results. This method resulted in more concordant assays and reduced the number of repeat assays. The standardization of this method for all jewelry scrap deposits occurred during 1938 to the best of my recollection. I do not believe this had material significance in favor

of depositors. Refinery runs continued satisfactory and the mass melts of 1940 held up all right.

When I examined the figures on page 2, Exhibit No. 4, Comparative Results of Mass Melting, I was puzzled as to the reason why there was so much difference between the mass melts of 1935, 1936, 1937 and 1940 and the mass melts of 1958. I looked through some of the Assayer's records of those years and also the tabulation of the individual mass melts. I concluded two factors were mainly responsible for this difference: (1) the mass melts of the 1930's all contained a large number of small bars, and (2) a considerable portion of the bars going into the mass melts were of very high base content.

Regarding the first factor, the swing of the balance, at least to the nearest .01 ounce downward, was taken on each of a large number of small bars making up each melt. This would accumulate to a much larger weight pick-up than the same factor in a mass melt with relatively few bars.

In regard to the second factor, the assay of gold deposits of extremely high base content results in low assays because of greater losses in cupellation of the assay charge as compared with the proof. This material is then massed with higher grade material which increases the gold and decreases the base content. This results in more normal assaying conditions for the application of the proof and a more accurate gold assay of the mass melt. Mass melts No. 31 and 32 of 1958 containing 274 bars of jewelry scrap are similar to the type of thing I am talking about. Here there is a gain 5.890 fine ounces of gold on a book weight of 12,308.53 gross ounces.

As to the Josten bars, I am frankly surprised that these 17 melts showed an overall loss rather than a gain. The record does not show mass melting of large bars of this kind in the past and so there is nothing like this to compare with. The picture might look considerably different had the Josten deposits been received in the form of many small deposits rather than large ones. It is noted that more than 1/3 of the loss on the 17 Josten melts before the final cleanup occurred in Melts No. 2 and 3. This indicates the possibility of error in these melts. The Committee report states a similar opinion in regard to mass melts No. 29 and 30, which showed excessive gain.

The thought occurs to me that electric furnace melting of the 1958 mass melts might have influenced the comparative results. The mass melts of 1935 through 1940 were made with gas-fired furnaces. There is a possibility that greater losses up the stack occurred with electric furnace melting due to the turbulence of the molten metal in the furnace crucible.

I agree that periodic mass melts should be made in the future to keep current on the relationship between deposits and mass melts so that adjustments can be made when necessary.

December 23, 1958

MEMORANDUM

TO : Alva K. Schneider, Superintendent

FROM : Charles M. Miller, Superintendent
Melting & Refining Division

SUBJECT : Bureau report on receiving and weighing deposits and related problems.

The Director's letter of December 18, 1958, requests that each official or employee referred to in the "Report on Receiving and Weighing Deposits and Related Problems" prepare an individual reply covering each section of the report where he is referred to.

On page 1 of Exhibit 1, reference is made to the fact that Mr. Reddish criticised me for not having reported the grains shortage sooner, i.e., at the end of July instead of waiting until the end of January.

The M & R Division maintains accounts for deposits which are broken down to indicate the amounts of gold and silver contained in deposit bars, grains and assay samples. All of the metal contained in these three categories is charged to the M & R Division even though the Cash & Deposits Division has custody of the grains until the end of the month and the Assayer has custody of the samples until they are eventually melted and the cast bars transferred to the M & R Division as "Assayer's Bars". An account is, therefore, kept with the Assayer showing the amount of M & R metal held in his custody. The M & R and Assay Divisions keep separate accounts covering this metal. Representatives of the two divisions periodically check with each other in order to see if the amounts charged and credited in each others accounts are in agreement. Likewise, the M & R Division maintains a separate account covering M & R metal held by the Cash & Deposits Division in the form of grains. However, unlike the Assay Division, the Cash & Deposits Division has not seen fit to keep their own separate account covering this grains metal as a check against the amount of metal charged against them in the M & R accounts.

At the end of each month, the grains attributed to deposits purchased during the month are melted into a "grains bar" by the deposit melter. The amounts of gold and silver contained in this grains bar are determined from the weight and assay of the bar for comparison with the amounts charged against the Cash & Deposits Division in the M & R Division accounts. It has been the customary practice over a long period of time for the Foreman Deposit Melter to call the M & R office each month for information as to how the amount of metal actually contained in the grains bar compares with the amount charged in the M & R accounts. It has never been the practice for the Superintendent of the M & R Division to convey this information personally to the Head of the Cash & Deposits Division. In fact, the M & R Division accounts covering these grains are based on data derived from Cash & Deposits Division records. The Cash & Deposits Division thus having available information identical to that available to the M & R Division, could, and I think should, keep their own grains account records for verification checks against M & R records and at the same time avoid utter dependence upon M & R records.

Notwithstanding the above, on the basis of information furnished by the N & R Division as set forth above, the Head Deposit Melter, during the succeeding month, makes such adjustments in his grains manipulations as he considers necessary to bring the actual metal content of the grains bar into line with that charged in the N & R accounts. Now, the question arises as to how these adjustments are made. Frankly, I thought they were being made by adjusting upward or downward the amount of deductions from the weight of grains. It now appears that these adjustments, always additive, were being made by adding "K" grains to the grains bar.

At the end of July, 1957, and every month thereafter, the Head Deposit Melter was advised, in the usual manner, regarding the status of the grains account. It is true that at the end of July, 1957, the grains account was short 25.870 ounces of gold and 7.04 ounces of silver. Mr. John Morr, Head Make-up Weigher in the M & R Division, informs me that Mr. William Johnson, Head Deposit Melter in the Cash & Deposits Division, upon being informed of this metal deficiency, showed no undue alarm, but rather explained that there was some sort of an over-lapping of grains between two successive months.

While I am not aware that I was personally informed of the situation with respect to the grains account at the end of July, 1957, I understand that Mr. Morr or Mr. Woodrow, or both, have stated that I was so informed. However, in either case, I can't see that it makes any difference because in all probability I would not have taken any action other than that which I took at the end of January, 1958. In the first place, during the next five months succeeding July, 1958, additional gold deficiencies in the grains account amounted to only 1.020, 0.769, 3.646, 0.132 and 1.895 ounces, respectively. These small additional deficiencies occurring during the five months in question indicated little, if any, divergence from normal fluctuations and were, in my opinion, of insufficient magnitude to cause one to resort to unusual reporting practices. However, when the somewhat larger gold deficiency of 11.700 ounces occurred in January, 1958, making a total of 45.031 ounces for the first seven months of the fiscal year, I fortuitously mentioned to Mr. Reddish that the grains account was getting out of line. I say "fortuitously mentioned" because I didn't bring the matter up in the form of a complaint, or as the result of any preconceived plan or as the result of any sense of obligation or responsibility on my part. I do not feel that it is my responsibility to keep the Head of the Cash & Deposits Division informed as to questionable conditions within his Division, particularly, when the pertinent information available to me is also available to him from his own records. Furthermore, there is no indication that any action other than that taken by Mr. Reddish at the end of January, 1958, would have been taken if the matter had been reported at the end of July, 1957, since the method used after January, 1958, for correcting the situation was identical with that being used during the previous six months.

On page 1, Exhibit 1, reference is also made to the fact that Mr. Reddish indicated that I had no reason to complain since I had received all of the metal due the N & R in the grains account.

As a matter of fact, I didn't bring up the grains situation as a complaint. There was a study being made here of our deposit receiving and assaying procedures. The question of over-payments to depositors was involved. After a recently conducted study of the grains problem, prompted by what I considered to be an unjust condemnation of me for not having reported the grains shortage earlier, I concluded that the grains situation was seriously involved in over-payments to depositors. So, in

keeping with what I thought to be the accepted policy of full cooperation with the Bureau Committee, I brought up the question of over-payment for grains. I had no idea that I would be so severely criticized later for this cooperation.

Now, as regards the M & R Division having received all of the metal due in the grains bar, Mr. Reddish is exactly right. The M & R Division did eventually receive all of the metal due, plus a surplus, at the end of the 1958 fiscal year. In fact, we normally receive a sizeable surplus in the grains bar. In one year, fiscal year 1950, we had a surplus of over 97 ounces of gold in the grains bar.

On page 1, Exhibit 5, reference is made to the fact that I had raised a question regarding the handling of Homestake deposits.

From my study of the grains problem, as referred to above, I concluded that the Homestake deposits may have been involved in the 1958 grains shortage. I had heard from various employees, both current and past, that surplus metal, probably "K" grains, was being added to Homestake grains in order to avoid excessive melting losses. This practice would, of course, cause a shortage in the grains account since lower grade metal than that attributed to Homestake deposits would have been included in the grains bar. I believe the Committee concluded that the grains being used to adjust the after-melting-weight of Homestake deposits were grains from previous Homestake deposits.

Oliver W. Miller

Sup't. Melting & Refining Div.,
United States Mint,
Denver, Colorado.

December 23, 1958

MEMORANDUM

TO : Mrs. Alma K. Schneider, Superintendent
FROM : Cecil Gray, Acting Assistant Assayer
SUBJECT : Bureau Report of December 5, 1958, Regarding Deposit Procedures

I was appointed to the position of Assistant Assayer in June 1927 at the New Orleans Assay Office. Mr. T. R. Schiereke was sent from the New York Assay Office to instruct me in the Mint methods of assaying and reporting gold and silver bullion.

In July 1932 I was given a recess appointment as Assayer in Charge of the New Orleans Assay Office, but as none of President Hoover's appointments were confirmed, I was automatically let out on March 4, 1933. I was retained as a temporary Junior Assayer for six months, the maximum time allowed for temporary help.

In March, 1934, I was reinstated as Junior Assayer in the New York Assay Office. I was Acting Second Assistant and in charge of the silver room from 1940 to 1946, while Austin Graham was in the military service.

During January 1947 I was transferred to Denver as Assayer's Assistant and in October 1957 was promoted to Assayer's Assistant (Supervisory).

My entire Mint service has been connected with the chemical and fire analyses of various Mint materials and of checking and/or reporting the results obtained.

The methods of analysis and reporting were the same in the three Mint institutions, and there has been no change in the procedure. It was always kept in mind that the Government must be protected against losses due to overpayment to depositors. The results of analyses were always reported on the scientific basis and there was never any juggling of these results. I have never changed or tightened results of determinations nor have I been ordered to do so; also I have never given such orders. It has been a standard practice to average the results of the various analyses made. It was always accepted that the gains that resulted from the average to the reported fineness were sufficient to break even in the refining process.

All bullion is transferred to the Refinery, assayed to the fourth of one thousandth, but after refining, the fine gold is transferred to the Superintendent's account assayed to one-tenth of one-thousandth. This gain plus the gain that resulted from the overage to the reported fineness on deposits was always accepted as sufficient to break even in the Refinery process.

(Signed)

Cecil T Gray

Cecil T. Gray,
Acting Assistant Assayer

SUGGESTED SUBJECTS TO BE COVERED IN MEMORANDA WITH
REGARD TO HANDLING DEPOSITS AND DEPOSIT PROCEDURES

1. The official capacity of the writer during his tenure at the Mint, particularly since 1940.
2. What connection, if any, he had with deposits and deposit procedures during his career at the Mint, particularly since 1940.
3. Whether he, personally, tightened up on the weighing or assay-ing of deposits so that the depositor was paid for more mater-ial than he had been paid for previously.
4. Whether he has ever received any requests or orders during his career at the Mint to "tighten up" on assays and weights so as to favor the depositor.
5. Whether he had any information or any understanding as to whether the Mint practice of weighing and assaying deposits was considered sufficient to enable the recovery of the bullion that was paid for.
6. Whether he knows of any instances in which the laws and regula-tions in regard to deposits were violated.
7. Any other information you have as to whether depositors at the Denver Mint have been overpaid or underpaid or whether either the Government or the depositors have been treated unfairly through weight or assay assigned to their deposits.

December 24, 1958

MEMORANDUM

TO : Mrs. Alma K. Schneider
Superintendent

FROM : Marshall M. Reddish
Assistant Superintendent

SUBJECT : Report on Receiving and Weighing Deposits and Related
Problems of the Bureau of the Mint Committee, dated
December 3, 1958

The Director of the Mint has invited me to comment further on deposit procedures at the Denver Mint. This is a generous invitation in view of the fact that my views in regard to this matter have been spread extensively and intensively upon the record.

Memoranda from those at this Mint who have personal and intimate knowledge of the Mint deposit procedures have been placed in your hands. I subscribe to the substance of all of them with one exception.

EXHIBIT NO. 1

I have no knowledge of any overpayments to depositors and feel that the other memoranda presented to you substantiate the fact that there have been no overpayments and no shortages. It appears now that for at least twenty years, and for a indeterminate number of years prior, personnel handling grains in our Deposit Division have done so under an interpretation of the regulations which is no longer that of the Bureau. They have freely explained that it has been their custom to add so-called "K grains" to the deposit grains bar over a period of many years. During the last year we have melted deposit grains separately from "K" grains a number of times and have proved that the deposit grains bar alone, without any addition of "K" grains, contains not only the amount of bullion for which depositors were paid but a small surplus.

All of us must realize that this question of possible irregularity has never been raised previously by settlement committees, by Bureau Accountants and Auditors, or by the head of the Melting and Refining Division.

It is only fair to note that considerable time was required after Mr. Miller's report in February 1958 to analyze the operation and obtain all of the facts in connection with it. Even the Bureau committee did not obtain all of the facts, as is indicated by other memoranda which have been given to you in connection with the Bureau report.

EXHIBIT NO. 2

In my opinion, evidence has yet to be produced to indicate that weights and assays of deposits must be reduced to prevent Refinery loss, provided the Refinery is operated efficiently. Deposit weights have been accepted over the years by the Melting and Re-finishing Division and by settlement committees. Surely we are not going to discredit Mint settlement and accounting procedures without clear evidence. It is well understood by those with experience in the Mints that bars are subject to abrasion and that at times particles fall off them during handling, particularly after the sampling process. There is no proof that any of the bars mentioned by the Committee did not have full weight at the time they were weighed for payment.

EXHIBIT NO. 3

The matter of possible overpayments to depositors for low grade bullion was the main subject for discussion during our conference with the Bureau committee. Briefly stated, it is my theory that the intent of the coinage laws is to give fair treatment both to the Government and to depositors. On behalf of the Government, provision is made for depositing as revenue large amounts of gold and silver which are received from depositors, but which are recovered in clean-ups. On the other hand, strict weighing and assaying procedures are set forth which are designed to see that the depositor is paid fairly. The law could have provided that all grains and scrapings of the crucible become the property of the Government. Instead, it was decided that the depositor should be paid for them.

It is my opinion that the provision for legal wastage was provided in recognition of the great revenue which the Government receives from the recovery of bullion for which depositors have not been paid and on the other hand, to give the depositor full credit for all of his deposit which can be given.

I think that the mining West was dotted with Mints and Assay Offices during the period of great mining activity for the purpose of rendering service to the public. In all honesty, I cannot agree now that the Government should proceed to adopt the principle of making a profit on the public from Government operations.

However, I would like to quote a remark I made early in the conference with the Bureau committee, the gist of which is repeated a number of times: "We recognize here that we are under the direction of the Bureau of the Mint, that the Bureau of the Mint can change regulations, that the Bureau of the Mint is entitled to interpret regulations, and we know that we must carry them out."

In my position I can never forget my responsibility to the Superintendent of the Mint because the Superintendent has responsibility and monetary liability which fall on no other persons in the Mint Service. It is for this reason that I have raised, among others, the question as to whether the fixing upon the Assayer of the responsibility for preventing Refinery losses may some time in the future prevent the Superintendent of the Mint from having access to the protection given by legal provisions for wastage. We must assume that other legal questions which have been raised in discussions with the Committee and in correspondence have already, or will, receive official attention.

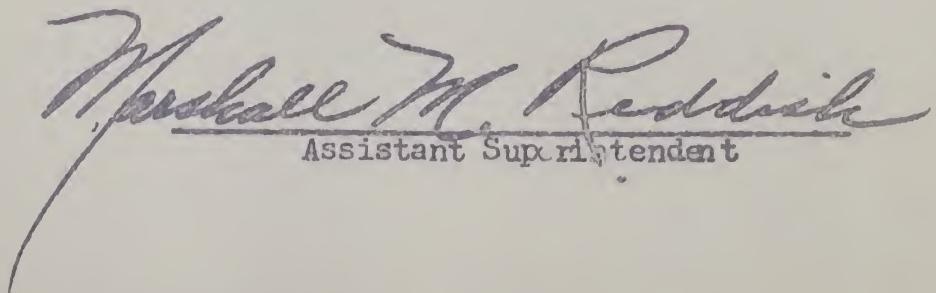
EXHIBIT NO. 4

I feel that the analysis of comparative mass melting done in 1958 and in previous years indicates that on the mass melting of comparative material, recent deposits stand up at least as well as those in former times.

EXHIBIT NO. 5

This matter appears to be adequately explained and clarified in other memoranda.

I again express my appreciation of the opportunity offered for further comment. If the Bureau Committee were here, I should be very glad to convey the same thought to them, together with my personal regards.


Marshall W. Reddick
Assistant Superintendent

December 28, 1958

MEMORANDUM

TO : Alma K. Schneider, Superintendent

FROM : Charles M. Miller, Superintendent
Melting & Refining Division

SUBJECT : Your memorandum of December 16, 1958, pertaining to Bureau report on receiving and weighing deposits and related problems

Your memorandum of December 16, 1958, which I recognize as having been prepared by Mr. Marshall Reddish in a desperate attempt to involve me in his current difficulties, makes certain statements which I feel require some comment. But, first, I am wondering if it would not have been more appropriate to address such a questionnaire to Mr. Reddish who having been directed by you to investigate the grains situation, not only failed to recognize and stop the illegal practice involved, but, also, condoned the expanded use of surplus bullion to offset a shortage.

In paragraph 2 of your memorandum, you state as follows:

"As Superintendent of the Melting and Refining Division it has been your responsibility, as a protection of the institution's values, to make sure insofar as possible that as much bullion is taken into your accounts as deposits are paid for."

While it is true that all bullion purchased from depositors is normally taken into my accounts, I don't follow the thinking that it has been my responsibility, as a protection to the institution's values, to make sure that as much bullion is taken into my accounts as depositors are paid for. If this statement were true, I would be obligated to take into my accounts bullion in connection with which there had been a sizeable over-payment. It has rather been my responsibility to make sure, insofar as possible, that I receive all of the bullion for which I sign a receipt. And, as far as I know, all of the bullion which has been purchased by this mint during the last thirteen years has been received for by my division, in accordance with weights and assays established by deposit receiving and assay personnel, respectively. Since I have had no control over deposit receiving and assay personnel or procedures, it is entirely possible that I may have at times signed receipts for more bullion than that actually received. In fact, it now appears that that is exactly what has been happening in connection with recent purchases of base deposits from the Josten Mfg. Co.

In paragraph 3 of your memorandum, you state as follows:

"Your division also maintains the only account for deposits, which is broken down to determine the amount of bullion due from deposit bars, grains and assay samples. Since your division maintained the only grains account in the Mint and therefore alone had information as to fluctuations between the account and the grains bars delivered to you, you are our only source of information on many matters respecting grains."

It is true that the Melting & Refining Division does maintain accounts for deposits which are broken down to indicate the amounts of bullion contained in deposit bars, grains and samples. But, the fact that it is the only grains account maintained in the Mint does not mean that a similar corroborating account should not be maintained by the Cash & Deposits Division as a check against the amount of bullion charged in the M & R accounts against the Cash & Deposits Division. Neither does it mean that I alone have had information as to fluctuations between the account and the grains bars delivered to me. In the first place, it has been the never varying practice for M & R personnel to advise Cash & Deposits personnel every month with regard to the status of this account. In the second place, all pertinent information available to me regarding these grains is also available to the Head of the Cash & Deposits Division from his own records. If the past practice of handling the grains account through subordinate employees, rather than through division heads, has been unsatisfactory why haven't the involved parties complained before this, rather than wait until they are involved in an illegal practice and then complain in a vain attempt to shift responsibility. Whether or not the concerned parties were satisfactorily advised of the grains situation is not involved here. After they received the type of advice which they now say they require, that is personal contact from the Sup't. of the M & R Div., the same illegal use of surplus bullion to offset a shortage was continued - but, on a much larger scale.

Your specific questions relating to the handling of grains are listed and answered as follows:

1. Upon what basis did you approve the monthly and yearly overages and underages which had existed in your grains account since you became the head of the Melting and Refining Division at Denver?

I have made no attempt to approve or disapprove these fluctuations in the grains accounts since they are controlled by practices followed in the Cash & Deposits Division, rather than the Melting & Refining Division.

2. Did you have any reason to think the fluctuations during this period were due to over-payments or under-payments to depositors?

No. I never had occasion to make a study of these fluctuations within the Cash & Deposits Division until I was accused of withholding information regarding them.

3. When, if ever, did you report these fluctuations officially to the Superintendent or head of the Deposits Division of this Mint? If you did not officially report the fluctuations, why not?

I have never reported these fluctuations personally to either the Superintendent or Head of the Cash & Deposits Division because it has never been either the responsibility or practice of the Superintendent of the Melting & Refining Div. to do so. However, Melting & Refining Division personnel has invariably kept Cash & Deposits Division personnel informed regarding the status of the grains account. In fact, Cash & Deposits Division personnel usually asked for the information.

4. Why did you refrain from reporting the 25 ounce difference in the grains bar in July 1957, and then wait until the seven month difference amounted to 45 ounces before making an official report?

I am under no obligation to make official reports concerning conditions within the Cash & Deposits Division unless I suspicion a breach of integrity within that division. However, the 25 ounce difference in the grains bar in July, 1957 was reported in the usual manner to Cash & Deposits Division personnel. It was, of course, assumed that the usual manipulation of grains within the Cash & Deposits Division would be employed to correct the situation. As a matter of fact, it appeared that the usual remedies for correcting the situation were being used since the small additional deficiencies occurring during the next five months in question were of little consequence.

5. Why did you report this incident, but none of the other fluctuations in the grains account?

I eventually mentioned it, but not as an official report, because the 11.700 ounce deficiency occurring in January, 1958 indicated resumption of a definite trend toward a shortage and the available time during which corrective action could be taken was running out. No, I didn't deliberately withhold any information with the intent of coaxing the involved personnel into a precarious position.

6. What, if anything, distinguishes the fluctuations in the grains account in the fiscal year 1958 from the monthly and annual ones which had previously occurred during your tenure at the Denver Mint?

Fluctuations in the grains account in the fiscal year 1958 involved a shortage rather than the usual surpluses.

7. Do you disapprove of fluctuations in the grains account, and if so, why?

No. I do not disapprove of fluctuations in the grains account. They are inevitable.

8. What do you consider a reasonable and proper fluctuation monthly in the grains account?

I would consider monthly fluctuations of from 3 to 4 ounces of gold in the grains account to be reasonable.

9. Were you aware that "K" grains have been added to the grains bar for many years?

No. I was unaware that "K" grains were being added to the grains bar.

10. If not, what did you consider to be the source of the grains in the grains account, such as a 97 ounce gain in fiscal year 1950?

I considered the source of grains in the grains account to be the actual grains from deposit purchases. I had never connected them with "K" grains. In fact, I had never heard of "K" grains previous to the investigation. As for the 97 ounce gain in fiscal year 1950, it was, after all, a gain.

11. What did you consider to be the reason for the various deficiencies in the grains account, such as the one for the fiscal year 1957?

I naturally considered them to be the result of inaccurate applications of deposit grain weight adjustments, since that is the only way in which they could have occurred legally. Now, after having given the matter some study, I can see that they involved over-payments to depositors. As a matter of fact, I never gave much thought to these fluctuations since they involved Cash & Deposits Division practices, rather than M & R Division practices.

12. What suggestions do you have for improving the handling of grains and accounting for them?

The only logical way to handle grains and account for them is to make practical weight deductions for foreign matter and for the recognized fact that grains seldom assay as high as the bar from which they are derived. This assay deficiency is particularly apparent when the deposit contains considerable iron. The accuracy of the standards set for these weight deductions would be indicated by the results obtained from monthly mass-melting of grains. Under no conditions should metal other than deposit grains be added to grains bars. Any surpluses or deficiencies should be absorbed in the M & R accounts.

13. Do you agree with representatives of the Bureau that mass-melting has long been recognized in the Mint Service as a means of checking upon the accuracy of weights and assays on deposits?

Yes. I agree with the position taken by the Bureau representatives.

14. Why didn't you mass melt deposits from 1946 to 1958?

It is true that no mass-melts were made from 1946 to 1958. In fact, Mr. Wagoner, my predecessor, made no mass melts from 1940 to 1946, and very few previous to 1940. I didn't make them from 1946 to 1953 because it wasn't convenient to make them at the time, the refinery was successfully operating with surpluses and we were, in effect, doing the next best thing when casting anode melts. Frankly, I think some mass-melting should have been done all along. It was just a question of placing ultimate confidence in the deposit weigher and the Assayer. Since 1953, when the need for some mass-melting became apparent, all requests for authority to make mass-melts were denied by your office.

15. Were the deposits mass-melted in 1958 the same type as those mass-melted previously?

I have no information as to the type of deposits mass-melted previous to 1958, but the amount of surpluses indicated by those mass-melts were of such magnitude as to preclude any quibbling as to the type of metal melted.

16. In determining the results of the mass-melting for 1958, did you give consideration to the bullion which escaped into sweeps and into the Cottrell precipitator? If not, what was your reason?

Yes. I gave consideration to these factors. The sweeps, including skimmings and ground crucibles were crushed, pan washed and sweat-melted to recover all possible values. The amount of metal escaping to the Cottrell was insignificant since the mass-melting was done in electric furnaces.

Chairman Miller

Memoranda 4/57 - 12/58 [See also 2.3.2]

